Energy Fuels Resources (USA) Inc.
225 Union Blvd. Suite 600
Lakewood, CO, US, 80228
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July 2, 2015

Mr. Shelly Rosenblum
U.S. Environmental Protection Agency
Radiation and Indoor Environments Team
75 Hawthorne Street / AIR-6
San Francisco, CA 94105-3901

Re: Application for Construction Approval of the Canyon Underground Uranium Mine, Coconino County, Arizona

Dear Mr. Rosenblum:

Enclosed are two copies of Energy Fuels Resources (USA) Inc.'s ("EFRI's") application for approval of construction of a new source or modification of an existing source under 40 CFR 61.07 for the Canyon Mine (the "Mine"). EFRI plans to restart development at the Mine in August or September of 2015. Prior to the start of ore production, EFRI will have completed the required ventilation shaft and installed a radon monitoring system.

The provisions of 40 CFR Part 61 Subpart B are not applicable to active underground uranium mines that will not exceed total ore production of 100,000 tons of ore during the life of the mine. The identified resource at the Mine contains 82,800 tons of uranium ore. EFRI is voluntarily filing this application even though the identified resource at the Mine contains less than 100,000 tons of uranium ore. Energy Fuels has found in the past that the quantity of ore may increase during mine development and mining, and that there is a possibility that the mine could ultimately produce in excess of 100,000 tons of ore. To be conservative, in order to avoid the possible need to submit an application for approval under 40 CFR 61.07 at a later date, EFRI is voluntarily submitting this application at this time. We understand that you already have a copy of the June 27, 2012 NI 43-101 Report, prepared by Roscoe Postle Associates Inc., which is referenced in the application. If you need an additional copy, please let me know.

Please contact me at 303-389-4130 should you have any questions or need additional information.

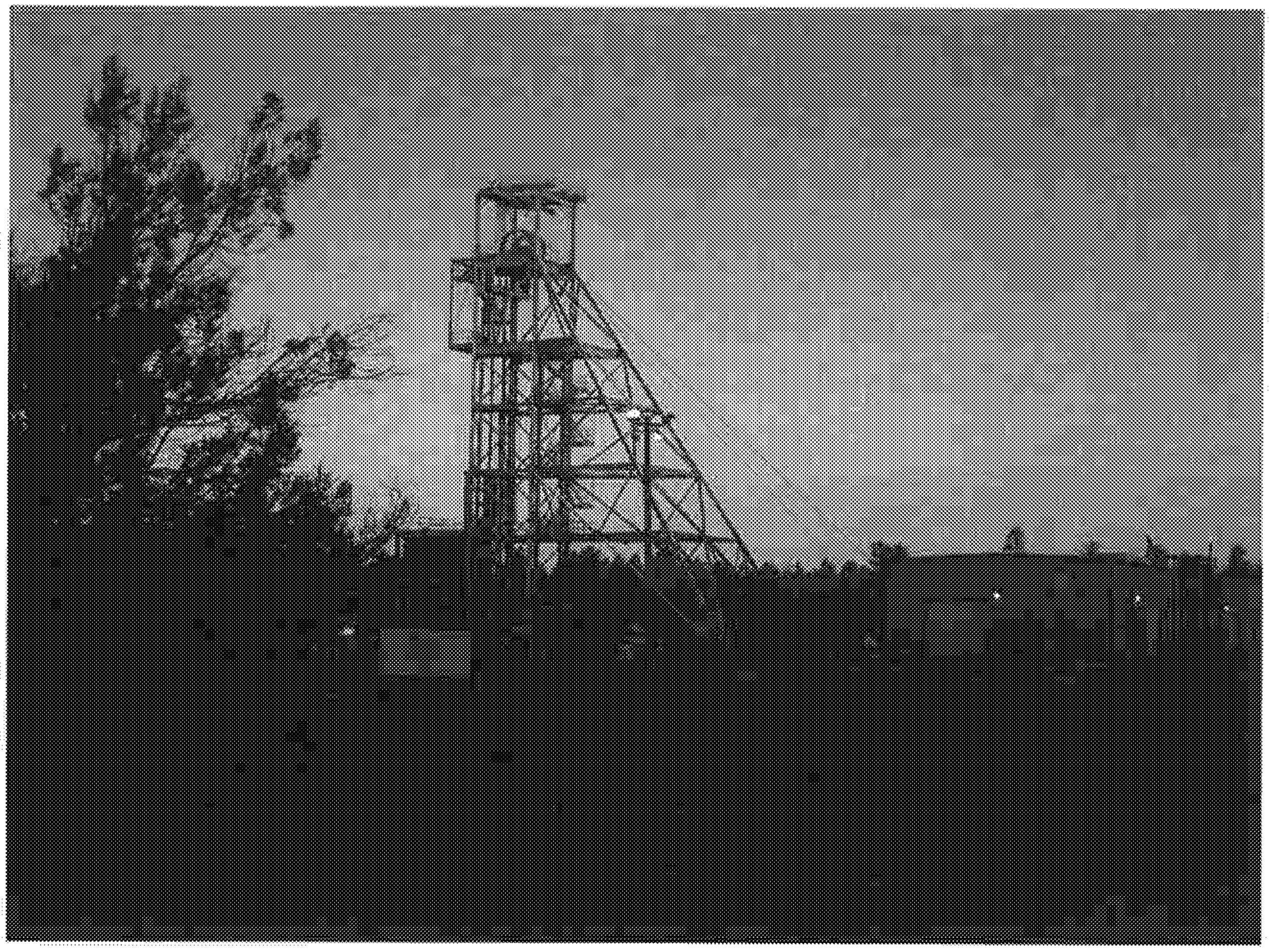
Sincerely,

ENERGY FUELS RESOURCES (USA) INC.
David C. Frydenlund
Senior Vice President, General Counsel

Enclosures

cc: L. Schuppert (Kaibab National Forest)
E. Massey, T. Baggiore (ADEQ Air Quality Division)
H. Roberts, D. Turk, D. Pillmore, S. Bakken, J. Massey (Energy Fuels)

APPLICATION FOR APPROVAL OF CONSTRUCTION OR MODIFICATION
ENERGY FUELS RESOURCES (USA) INC.
CANYON MINE
COCONINO COUNTY, ARIZONA



Prepared By:

ENERGY FUELS RESOURCES (USA) INC

225 Union Blvd. Suite 600
Lakewood, CO 80226

July 2015

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FIGURES

ATTACHMENTS

1.0 INTRODUCTION

This is an application for approval of construction or modification of a new source under 40 CFR 61.07 at the Canyon mine (the "Canyon Mine" or "mine") located in Coconino County Arizona. The Canyon Mine is designed to extract uranium ore from a breccia pipe deposit using underground mining methods. The mine is designed in a similar manner to the Pinenut mine (the "Pinenut Mine") and Arizona 1 mine (the "Arizona 1 Mine") that received construction approvals from the U.S. Environmental Protection Agency ("EPA") in April 2011 and July 2013, respectively. The Canyon Mine, when developed, will have a production shaft that will be used as the ventilation intake and a ventilation shaft with fans that will be used as the ventilation exhaust. Energy Fuels Resources (USA) Inc. ("Energy Fuels", "EFR" or the "Company") is voluntarily filing this application even though the identified resource at the Canyon Mine contains less than 100,000 tons of uranium ore. The provisions of 40 CFR Part 61 Subpart B are not applicable to active underground uranium mines that will not exceed total ore production of 100,000 tons of ore during the life of the mine. However, Energy Fuels has found in the past that the quantity of ore may increase during mine development and mining, and that there is a possibility that the mine could ultimately produce in excess of 100,000 tons of ore. To be conservative, in order to avoid the possible need to submit an application for approval under 40 CFR 61.07 at a later date, the Company is voluntarily submitting this application at this time.

The Canyon Mine, which is located on public land managed by the United States Forest Service ("USFS"), was permitted with the USFS and State of Arizona in 1986. The former operator, Energy Fuels Nuclear, Inc. ("EFN"), started construction of the mine in late 1986 but put it on standby in 1992 due to depressed uranium prices. At that time, the surface facilities were completed and the shaft had been constructed to a depth of approximately 50 feet. All surface facilities required to run the mine at that time were constructed, including the evaporation pond and power lines to the site. The Canyon Mine site remained on standby until the fall of 2012 when Energy Fuels resumed refurbishment of certain of the surface facilities. Shaft sinking resumed in April 2013 and continued until October 2013 when the mine was again placed on standby. As a result of the work performed in 2013, the shaft was sunk an additional 230 feet to a depth of approximately 280 feet. The shaft is currently approximately 620 feet above and 150 feet to the northeast side of the ore body (see Figure 6). Therefore, as discussed below, no radon of any significance has been encountered in the shaft sinking.

Currently, EFR expects the Pinenut Mine to be mined out by the end of August 2015. The crew working at the Pinenut Mine is scheduled to be transferred to the Canyon Mine to re-commence shaft sinking as soon as the Pinenut Mine is mined out.

Under the current schedule, access to the ore deposit and ore production will not occur until late 2016. Accordingly, no radon emissions of any significance are expected to be exhausted from the mine's ventilation system until the fourth quarter of 2016.

2.0 BACKGROUND

The USFS approved the Canyon Mine project with an Environmental Impact Statement ("EIS") and Record of Decision in 1986. As discussed above, construction of the mine's surface facilities commenced in the fall of 1986, but the project was put on standby in 1992 with only 50 feet of the shaft completed. The mine and its permits were acquired by International Uranium (USA) Corporation ("IUC") and its affiliates in 1997. IUC later changed its name to Denison Mines (USA) Corp. ("Denison") in 2007 and to Energy Fuels in 2012. Energy Fuels and its affiliates are not associated with EFN.

As uranium prices increased in 2007, the Company, then named Denison, began the process of acquiring the Arizona State permits needed to resume mining operations at the Canyon Mine, including air and aquifer protection permits. The required state permits were obtained during the 2009 to 2011 time period. In July 2009, the Secretary of the Interior made a proposal to withdraw approximately one million acres of federal locatable minerals in northern Arizona from the location of new mining claims under the Mining Law of 1872, subject to valid existing rights. This proposed withdrawal area included the Canyon Mine.

Secretary Salazar announced the withdrawal of 1,006,545 acres of land from location and entry under the mining laws on January 9, 2012. However, the withdrawal did not prohibit previously approved uranium mining or new projects that could be approved on claims and sites with valid existing rights. Although not required, because the Canyon Mine had already been approved under a previously approved Plan of Operations, a mineral examination of the Canyon Mine claims was subsequently completed by the USFS on April 17, 2012 (USFS 2012a), which confirmed the economic feasibility of the mineral deposit. The mineral examination independently concluded that there were 84,207 tons of uranium ore reserves in the deposit at a grade of 0.97% U_3O_8. These numbers are almost identical to the estimate of 82,800 tons of inferred mineral resources at a grade of 0.98% U_3O_8 that was identified in the NI 43-101 Report prepared by Roscoe Postle Associates Inc. ("RPA") on June 27, 2012 (RPA 2012). The latter estimate is Energy Fuels' best estimate for the Canyon Mine ore deposit.

In a report dated June 25, 2012, the USFS concluded that no federal action was required for the Company to resume operations at the mine. Specifically, the USFS concluded that "no modification or amendment to the existing Plan of Operations is necessary; that no correction, supplementation, or revision to the environmental document is required; and that operations at the Canyon Mine may continue as a result of no further federal authorization being required." (USFS 2012b).

Energy Fuels resumed surface development in October 2012 with refurbishment of the lined impoundment to store mine water and rehabilitation of the existing buildings, headframe and hoist. Sinking of the mine shaft restarted in April 2013 but was discontinued in October 2013 when the mine was again placed on standby. As a result of the work performed in 2013, the shaft was sunk an additional 230 feet to a depth of approximately 280 feet. The shaft was ventilated during construction using a temporary fan and ventilation tubing. However, as the shaft is currently approximately 620 feet above and 150 to the northeast side of the ore body (see Figure 6), no radon of any significance was encountered during the shaft sinking.[1]

Shaft sinking at the Canyon Mine is now scheduled to resume in August or September 2015, when the Pinenut Mine is expected to be mined out. It is anticipated that it will require 15 months to sink the shaft and develop drifts from the shaft to the ore deposit. The shaft will be ventilated during construction using a temporary fan and ventilation tubing. However, the ore deposit is not expected to be accessed until late 2016, and the permanent ventilation system is not scheduled to be installed until mid-year 2016. Accordingly, no radon emissions of any significance are expected to be exhausted from the mine's ventilation system until the fourth quarter of 2016. As before, the Company will install track-etch canisters at the top of the shaft and at the inlet of the temporary fan and ventilation tubing during shaft sinking operations to confirm that no radon of any significance will be released to the atmosphere prior to completion of shaft sinking and installation of the permanent ventilation system. See Section 5.4.1 below.

[1] In an abundance of caution, track-etch canisters were placed at the top of the shaft and at the inlet of the temporary fan and ventilation tubing that was used during shaft sinking operations, which confirmed that virtually no radon had been released to the atmosphere during shaft sinking operations. See Section 5.4.1 below.

3.0 NAME AND ADDRESS OF OWNER/OPERATOR

The owner of the unpatented mining claims at the Canyon Mine, which are located on public land managed by the USFS, is:

EFR Arizona Strip LLC
225 Union Blvd., Suite 600
Lakewood, Colorado 80228

This Application is being submitted by the operator:

Energy Fuels Resources (USA) Inc.
225 Union Blvd., Suite 600
Lakewood, Colorado 80228

4.0 LOCATION OF THE SOURCE

The Canyon Mine is located in the west half of Section 20, Township 29 North, Range 3 East, Gila and Salt River Meridian, Coconino County, Arizona. As shown on Figure 1, the mine is located about 40 miles north of Williams, Arizona. It can be accessed by USFS Road 305 off of State Highway 64. The closest community is Tusayan, Arizona, which is located approximately six miles northwest of the mine.

The location of the mine's surface features, including the proposed production and ventilation shafts, are shown on Figure 2. The mine surface area encompasses approximately 17 acres.

The location of the Canyon Mine in relation to nearby communities and other emissions sources is shown on Figure 3. The other potential emission sources are Energy Fuels' existing and future mines including the:

- Pinenut Mine (currently completing production);
- Kanab North Mine (in closure, the shaft has been backfilled);
- EZ 1/ EZ 2, DB1, and What properties (identified resources that may be mined in the future);
- Wate (identified resources that may be mined in the future); and
- Arizona 1 Mine (on standby).

Energy Fuels is not aware of any other nearby sources or potential sources that have not yet been constructed or modified, but that have received approval to construct or modify or that were exempt from obtaining approval.

The mine is located at 6,500 feet above sea level, and the topography in the vicinity of the site is relatively flat and dissected by numerous ephemeral streams that drain generally to the south. The area is mostly wooded with Ponderosa Pine, Pinyon Pine, Scrub Oak, and Juniper; however the mine is located in a natural clearing consisting of native grassland. The latitude/longitude coordinates of the mine site are 35°53'00"N, 112°05'48"W.

The locations of the nearest unrestricted areas where individuals may reside or abide (i.e., possible receptors) are shown on Figure 5. Figure 5 was prepared conservatively in that all observed manmade structures were identified as possible receptors even though there may not be any occupied residences associated with those structures. In fact, the closest receptor that was used for modeling purposes

(Possible Receptor 11) consists of an unoccupied residence and a deserted airplane hangar. Photographs of both structures are provided in Attachment B.

5.0 IDENTIFICATION OF RADIONUCLIDES AND ESTIMATION OF RADIONUCLIDE EMISSIONS

5.1 Number and Location of Emission Points

During development of the shaft, fresh air will be supplied to the miners via ventilation tubing and a temporary fan. The air will be exhausted up the production shaft. As shown on Figure 6, the shaft will be offset from the breccia pipe and sunk through the Moenkopi Formation, the Kaibab Limestone, the Toroweap Formation, Coconino Sandstone, and the Hermit Shale. As the shaft will be sunk in formations that do not contain uranium or other radioactive elements, no radon emissions of any significance are expected during shaft sinking operations. However, to be conservative, Energy Fuels intends to install track-etch canisters during shaft sinking operations to monitor for any potential radon emissions (see Section 5.4.1). Once the shaft is completed, drifts (i.e. tunnels) will be driven at multiple working levels from the shaft to the ore deposit, and a ventilation shaft will be completed closer to the ore deposit.

As shown on Figure 7, the vent shaft will have two vent outlets set up in a Y-configuration where the vent shaft meets the surface. Permanent fans will be installed in each of the vent outlets. These fans will typically draw fresh air into the mine through the production shaft and exhaust the air at the ventilation shaft after the air is circulated to the mine's working faces, although these flows could be reversed in certain circumstances. Depending on the mine's ventilation needs, one or both of the fans will be in operation when the mine is operating. When the mine is not operating (e.g., weekends and holidays), the vent shaft fans will typically be shut down and the production shaft air doors closed.

5.2 Radionuclides Released From the Mine Vent

Radon-222 will be emitted from the vent shaft at the Canyon Mine, and possibly from the production shaft. Radon is a chemical element that is a radioactive, colorless, odorless, tasteless noble gas, occurring naturally as the decay product of radium, which in turn is a decay product from the uranium in the mine. Radon-222 has a half-life of 3.8 days.

Since little Thorium-232 is contained in the ore from the mine, the effluent stream is not expected to contain significant quantities of radon-220 (thoron), which is a decay product of Thorium-232.

5.3 Projected Annual Quantity of Radon Emissions

5.3.1 Method to be Used to Estimate Radon-222 Emissions

Site-specific emissions data are not available for the Canyon Mine. However, there are two comparable mines with approved monitoring programs that can be used as reference points on which to base radon emission estimates for the Canyon Mine. The Company's Arizona 1 Mine and Pinenut Mine are nearby breccia pipe uranium mines that are very similar to the Canyon Mine. Mining commenced at the Arizona 1 Mine in November 2009 and was placed on standby in April 2014. Mining re-commenced at the Pinenut Mine in mid-year 2013 and is expected to be completed by the end of August 2015. Radon-222 emissions have been monitored at both of those mines, using approved methods.

In addition, where site specific data is not available and there are no comparable mines with approved monitoring programs, EPA has advised the Company[2] that radon emissions can be estimated based on the methods described in the EPA Guidance document entitled *Background Information Document, Standard for Radon-222 Emissions from Underground Uranium Mines*, April 10, 1985 (EPA 520/1-85-010) (the "1985 Guidance"). The 1985 Guidance describes an emission factor which relates tons of ore mined to annual radon emissions. That emission factor can be used to calculate potential radon-222 emissions from the Mine, which can then be used as the source term for the COMPLY-R modeling.

Both of these methods – using data from the comparable Arizona 1 Mine and Pinenut Mine, and estimating radon emissions based on the methods described in the 1985 Guidance – will be used to estimate radon-222 emissions from the Canyon Mine, as described below.

5.3.2 Using Emissions Data from the Arizona 1 and Pinenut Mines to Estimate Radon 222 Emissions from the Mine

A total of 111,830 tons of ore, with an average grade of 0.613% U_3O_8 was mined from the Arizona 1 Mine from commencement of mining in November 2009 to April 2014. Total radon-222 emissions for the years 2012, 2013 and 2014 were measured based on EPA Method A-6 (scintillation cells) at 334, 456 and 910 curies per year ("Ci/yr"), respectively. Although mining at the Arizona 1 Mine has not occurred since April 2014, the mine continued to be ventilated and monitored through the end of 2014. Conservatively taking the highest annual measurement of 910 curies for 2014, and adjusting for the difference in ore grade between the Arizona 1 Mine and the Canyon Mine of 0.98/0.613 (or 1.60), the estimated maximum annual emissions from the Canyon Mine would be 1,455 Ci/yr, based on the measured emissions from the Arizona 1 Mine.

A total of 76,174 tons of ore, with an average grade of 0.71% was mined from the Pinenut Mine from commencement of mining in March 1988 to December 31, 2014. Total radon-222 emissions for the years 2013 and 2014 were measured based on EPA Method A-6 (scintillation cells) at 272, and 894 Ci/yr. Conservatively taking the higher annual measurement of 894 Ci/yr for 2014, and adjusting for the difference in ore grade between the Pinenut Mine and the Canyon Mine of 0.98/0.71 (or 1.38), the estimated maximum annual emissions from the Canyon Mine would be 1,234 Ci/yr, based on the measured emissions from the Pinenut Mine.

Based on the actual measured emissions data from the Arizona 1 Mine and Pinenut Mine, adjusting for differences in the average grades of the ore, the estimated radon-222 emissions from the Canyon Mine would therefore be 1,234 to 1,455 Ci/yr.

5.3.3 Application of 1985 Guidance to Estimate Radon-222 Emissions from the Mine

The 1985 Guidance provides a mechanism for estimating future radon-222 emissions from underground uranium mines, based on radon-222 emissions data from 27 underground uranium mines that were sampled in 1978-1979. The Company has developed a Canyon Mine-specific estimate of future radon-222 emissions, based on the emission factor in the1985 Guidance.

The 1985 Guidance observes that, based on the study of those 27 mines, cumulative historic ore production at each mine is the most important factor that is directly correlated to radon-222 emissions:

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[2] See the letter from EPA to Denison dated September 22, 2010 in connection with Denison's 40 CFR 61.07 application for the Arizona 1 Mine.

"Measurement programs at underground mines (Ja79 and Ja80) indicate that the amount of radon-222 exhausted with ventilation air is more directly related to the total surface area of underground workings being ventilated than to daily production rates. The total underground surface area is generally proportional to the total cumulative amount of ore extracted during the lifetime of the mine. This is logical because the uranium content of the rock surface in the mined-out areas of the mine is not zero; rather, it varies up to the economic cutoff grade for mining. The total area of exposed mine surfaces is many times that of a working face from which ore is being extracted, especially for a mine that has been in operation for several years. Therefore, radon-222 emission rates tend to increase with the age of the mine because more surface area has become exposed by subsequent mining." (page 3-3)

The 1985 Guidance uses correlations between radon-222 emissions and cumulative ore production observed from the 1978-1979 data to predict future radon-222 emissions for individual mines. "By multiplying the emission rate factor of 4.4×10^{-3} Ci/ton-y by the forecasted ore production rates for each mine and adding the resulting value to the current emission rate of the mine, future annual radon-222 emissions can be predicted for each individual mine." (page 3-8).

The Company used this approach to estimate potential radon-222 emissions from the Canyon Mine, based on the inputs set out in the spreadsheet included as Attachment C to this letter. This resulted in estimated annual radon-222 emissions from the mine of 1,928 Ci/yr.

In using this approach, the Company made the following conservative assumptions:

a) *Maximum Radon Emissions Assumed Over Entire Mine Life*

The entire ore body of the Canyon Mine was assumed to have been mined out at the outset of mining. This is conservative, because at the start of mining there is no cumulative ore production and there are no radon emissions. As the ore is mined out, the amount of cumulative ore production increases, which creates radon-generating underground surfaces. The number of radon-generating surfaces increases until they reach a maximum at the end of mining, after all ore has been mined out. To be conservative, the maximum amount of mining was assumed to have occurred and the maximum amount of mined out surface area was assumed to exist at the outset of mine operations. In other words, the maximum amount of radon generation was assumed to have occurred on the first day of mining and to have continued throughout the life of the mine. This means that the 1,928 Ci/yr emission rate for the mine was derived by assuming an emission rate of zero at the outset of mining, and by multiplying the entire expected cumulative mine production over the life of the mine of 83,000 tons by the radon emission factor of 4.4×10^{-3} Ci/ton, resulting in an emission rate of 365 Ci/yr, and then adjusting for the ore grade, as discussed in (b) below to result in an estimated emissions rate of 1,928 Ci/yr.

b) *Radon Emission Factor Adjusted for Mine Ore Grade*

Although not required by the 1985 Guidance, the estimated radon-222 emissions from the Canyon Mine were increased to take into account the actual average ore grade of the Canyon Mine, as requested in EPA's September 22, 2010 letter relating to estimating radon-222 emissions from the Company's Arizona 1 Mine. The emission rate factor of 4.4×10^{-3} Ci/ton-y was based on the study of radon-222 emissions from 15 of the 27 mines studied in 1978 and 1979. The average ore grade from 1966 through 1978 in the United States was calculated to be 0.18556% U_3O_8 (see the spreadsheet included as Attachment C), which was assumed to be representative of the 15 mines studied[3]. In contrast, the estimated average ore grade for the Mine is 0.98% U_3O_8. The predicted radon-222 emission rate from the Canyon Mine of 365 Ci/yr based on application of the 1985 Guidance was therefore increased by a factor of 0.98/0.18556 (or 5.28) to 1,928 Ci/yr.

5.3.4 Comparison to Other Benchmarks and Estimated Radon-222 Emissions from the Canyon Mine

As can be seen from the discussions in Sections 5.3.2 and 5.3.3 above, using the similar Arizona 1 Mine and Pinenut Mine as benchmarks, and adjusting for differences in average ore grade, the estimated maximum radon-222 emission rate from the Canyon Mine would be approximately 1,234 to 1,455 Ci/yr. These estimated maximum emission rates are only 64% to 75% of the estimated maximum emission rate from application of the 1985 Guidance to the Canyon Mine, adjusted for differences in ore grade, of 1,928 Ci/yr.

To be conservative, the Company has used the higher estimated emission rate of 1,928 Ci/yr from application of the 1985 Guidance adjusted for ore grades, in performing its COMPLY-R modeling for this application. Using this higher estimated maximum emission rate is expected to result in an over estimation of radon-222 emissions and estimated doses to nearby receptors by approximately 1.33 to 1.56 times, compared to the estimates derived from actual measurements at the Arizona 1 Mine and Pinenut Mine.

It is also interesting to note that the estimated radon-222 emissions from the Arizona 1 Mine based on the application of the 1985 Guidance to that mine, as set out in the April 2, 2013 application relating to the Arizona 1 Mine was 1,770 Ci/yr, which overestimated the actual highest annual emissions from the mine of 910 Ci/yr by approximately 1.95 times. Similarly, the estimated radon-222 emissions from the Pinenut Mine based on the application of the 1985 Guidance to that mine, as set out in the November 24, 2010 application relating to the Pinenut Mine was 1,659 Ci/yr, which overestimated the actual highest annual emissions from that mine measured through the end of 2014 of 894 Ci/yr by approximately 1.86 times. These data are consistent with the conclusions set out above, and suggest that the estimated radon-222 emissions from the Canyon Mine of 1,928 Ci/yr, based on application of the 1985 Guidance, will likely overestimate the actual emissions from the Canyon Mine, and the corresponding modeled doses to nearby receptors, by a factor of 1.86 to 1.95 times.

As a second comparison, Table 3-2 of the 1985 Guidance shows mine size categories and percentages of the uranium industry's radon-222 emissions. Based on that table, mines such as the Canyon Mine, with cumulative ore production of 10,000 to 100,000 tons have average emissions per mine of 140 Ci/yr. Making a similar adjustment for ore grade as used above for the Canyon Mine (5.28 times the historic data), this would predict an emission rate for the Canyon Mine of 743 Ci/yr. The estimated radon-222 emission rate for the Mine of 1,928 Ci/yr using the 1985 Guidance exceeds that historic industry average by approximately 2.6 times.

Based on the foregoing benchmark analyses, it is evident that the estimated maximum radon emission rate from the Canyon Mine of 1,928 Ci/yr, based on application of the 1985 Guidance, is conservative and will likely overstate actual emissions by a factor of 1.33 to 2.6 times.

[3] The average grade of ore in the 15 mines used to determine the 4.4×10^{-3} Ci/ton-y factor was slightly higher at 0.18607% U_3O_8. For purposes of estimating radon-222 emissions from the Canyon Mine, however, we conservatively used the lower average grade for the industry of 0.18556% U_3O_8.

5.4 Monitoring Program for Measuring Emissions

As mentioned above, the Company is voluntarily filing this application even though the identified resource (that also was verified independently by the USFS) at the Canyon Mine contains less than 100,000 tons of uranium ore. The provisions of 40 CFR Part 61 Subpart B are not applicable to active underground uranium mines that will not exceed total ore production of 100,000 tons of ore during the life of the mine. However, as stated above, Energy Fuels has found in the past that the quantity of ore may increase during mine development and mining, and that there is a possibility that the mine could ultimately produce in excess of 100,000 tons of ore. To be conservative, in order to avoid the possible need to submit an application for approval under 40 CFR 61.07 at a later date, the Company is voluntarily submitting this application at this time. If the total ore mined from the mine does not exceed 100,000 tons over the life of the mine, then 40 CFR Part 61 Subpart B, and the standards set out therein, would not apply to the mine.

In order to allow for the possibility that the total tons mined from the Canyon Mine could exceed 100,000 tons over the life of the mine, and that the provisions of 40 CFR Part 61 Subpart B could apply to the mine in the future, the Company will perform the monitoring required by 40 CFR Part 61 Subpart B, so that the data will be available to determine compliance with the standards set out therein, should they apply in the future, and will report those data to EPA annually (see Section 11 below). If an annual report indicates an exceedance of the standard set out in 40 CFR 61.22, and EPA determines that the standard is applicable to the mine, EPA will have all the information necessary in order to make an enforcement decision at that time.

5.4.1 Monitoring During Shaft Sinking

As mentioned above, track-etch canisters will be employed as the shaft is being sunk, to confirm that no radon of any significance is being emanated from the mine during shaft-sinking operations. New track-etch radon detectors will be installed at the top of the shaft and at the inlet of the temporary fan and ventilation tubing used during shaft sinking operations, at or near the end of each month, and spent radon detectors will be sent to a qualified off-site laboratory to be read.

Track-etch monitors were employed at the top of the shaft and at the inlet of the temporary fan and ventilation tubing used during shaft sinking operations conducted in 2013. A table summarizing the results of such monitoring is set out in Attachment D, which indicates a range of measurements of 0.3 pCi/l to 3.7 pCi/l, with an average of 1.84 pCi/l. These measurements indicate virtually no radon, and can be compared to the average measured 2014 radon emissions from the Arizona 1 Mine and Pinenut Mine of 1340.5 pCi/l and 1,230.21 pCi/l, respectively.[4] It can therefore be concluded that no radon emissions of any significance were detected from shaft sinking operations in 2013. The Company does not anticipate encountering any radon of any significance until the shaft is sunk to 1,406 feet below surface and the Company starts development of the deposit.

5.4.2 Monitoring During Ore Production

Radon-222 emissions will continue to be monitored once the permanent ventilation system at the mine is activated and development of the deposit commences. Currently, this is scheduled to occur in late 2016.

[4] The very small measured amount of radon from shaft sinking is likely due to the disturbance of the natural rock formations and is very low, even compared to the EPA standard for residential houses, which comes from natural background, of 4 pCi/l.

Under 40 CFR 61.23, compliance with the radon emission standard is determined and the effective dose equivalent calculated using the EPA computer code COMPLY-R. The uranium mine owner or operator is required to calculate the source terms to be used for input into COMPLY-R by conducting testing in accordance with the procedures described in 40 CFR Part 61, Appendix B, Method 115 (Method 115). These procedures include:

> Section 1.1.2 of Method 115 requires that periodic (1 week) measurements may be taken at mines that continuously operate their ventilation systems except for extended shutdowns and that mines which start up and shut down their ventilation systems frequently must use the continuous measurement method described in Section 1.1.1 of Method 115. Section 1.1.1 provides that the radon concentrations shall be continuously monitored at each mine vent whenever the mine ventilation system is operational.
>
> Section 1.2.3 of Method 115 provides that Test Method A-6 or Test Method A-7 are to be used for the analysis of radon, and that use of Test Method A-7 requires prior approval of the EPA, based on conditions described in 40 CFR Part 61, Appendix B.

As the ventilation system will not be operated continuously at the Canyon Mine (it will be operated only when mining is taking place), Energy Fuels will test radon-222 emissions continuously per Section 1.1.1 (Continuous Measurement) and 1.2 (Test Methods and Procedures) of Method 115. In accordance with Section 1.1.1, monthly radon-222 emission rates will be calculated and recorded using monthly radon-222 concentration data and monthly ventilation rate measurements.

Energy Fuels proposes to use Test Method A-7 to measure radon concentration in the ventilation exhaust streams if approved by the EPA. Otherwise, Test Method A-6 will be employed. Comparison testing between Method A-6 and A-7 was performed at three of the Company's mine operations including the nearby Pinenut Mine. The test results, which are documented in the "*Data Summary Report of Method A-6 versus Method A-7, Radon Monitoring Side-by-Side Test Study*" (Energy Fuels 2014), indicate that the track etch results (i.e., Test Method A-7) are typically higher than the corresponding scintillation results (Test Method A-6) and conservatively overestimate radon emissions. This report was submitted to the EPA in May 2014 for review and consideration in support of the Company's request to use Test Method A-7 for all of its uranium mines, including the Canyon Mine. The Company has not yet received a response to this request from EPA Headquarters.

Regardless of the method used, the detection device will be placed in the mine's ventilation exhaust air streams. This means that detection devices will be located at each of the two vent outlets set up in a Y-configuration where the vent shaft meets the surface, as well as at the top of the production shaft, to ensure that all potential radon emission streams are captured, regardless of whether the fans are set to exhaust, intake or are turned off. In the case of Test Method A-6, average radon concentrations will be determined on a monthly basis. In the case of Test Method A-7, a new radon detector will be installed in each ventilation exhaust air stream at or near the end of each month, and spent radon detectors will be sent to a qualified off-site laboratory to be read.

Method 115, Section 1.2 specifies the test methods to measure velocity traverses (40 CFR 60 Appendix A, Method 1) and velocity and volumetric flow rates (40 CFR 60 Appendix A, Method 2). Energy Fuels will take velocity measurements that are appropriate for the type of exhaust opening (see Section 5.7 below).

5.5 Quality Assurance/Quality Control Program

Energy Fuels conducts quality assurance/quality control (QA/QC) for the radon emission monitoring program in general conformance with the requirements of Method 114. The QA/QC Program consists of the following procedures.

5.5.1 Quality Assurance

The primary QA objectives are to verify that the emission measurements are representative, and are of known precision and accuracy and that prompt review and corrective action (where appropriate) occurs when emission measurements indicate unexpectedly large or small emissions. Under this program, samples and measurements will be collected in accordance with the provisions of Method 114 and Method 115, as described above. In the case of Test Method A-6, radon measurements will be taken from the monitoring device, which will be calibrated periodically in accordance with regulatory requirements and the manufacturer's recommendations. In the case of Test Method A-7, radon-222 monitoring samples will be analyzed by an accredited independent laboratory in accordance with standard analytical procedures.

Monitoring and analytical results will be reviewed by Energy Fuels' Quality Assurance Manager or other qualified personnel to verify that the precision, accuracy and completeness of the results meet the following criteria:

a). Precision

Precision is a measure of the agreement among individual measurements of the same parameters under similar conditions. Precision is confirmed by the calculation of the relative percent difference ("RPD") between a sample and a duplicate sample. Energy Fuels evaluates any RPD greater than $\pm$ 20%. Duplicate measurements are taken when measuring air velocity, and duplicate track etch detectors (i.e., Method A-7) are periodically employed at key exhaust locations.

b). Accuracy

Accuracy is the degree of agreement of a measurement with a true or known value. Accuracy of laboratory analyses is measured using analytical spikes and analytical standards; however, this is not applicable to Methods A-6 or A-7. Energy Fuels has been comparing the Method A-6 and A-7 results at several other mines with adjustments made for site-specific factors to determine the relative accuracy of the two methods.

c). Completeness

Completeness is a measure of the amount of valid data obtained compared to the amount expected under normal conditions. Energy Fuels reviews the monitoring and measurement results each period to determine completeness. The Company's goal is to achieve 100 percent completeness and, in no case, less than 80 percent completeness for each emission point during a calendar year.

5.5.2 Quality Control

The QC objective is to evaluate and track the quality of the emissions measurement data against preset criteria. Radon track etch devices will be calibrated to known radon-222 concentrations on a routine basis at the laboratory facility to ensure the accuracy of the measurements. The anemometer used for measuring ventilation flow rates will be calibrated on an annual basis. Test Method A-6 monitoring equipment will be calibrated periodically as required by the applicable regulations and manufacturers recommendations.

A sample tracking system has been established to provide for positive identification of samples and data through all phases of the sample collection, analysis and reporting system. In addition, sample handling and preservation procedures have been established to maintain the integrity of samples during collection storage and analysis.

Any anomalous results or emission measurements that indicate unexpectedly large or small emissions will be identified during the foregoing QA evaluations and promptly brought to the attention of Energy Fuels' management for appropriate action.

5.6 Stack Heights and Diameters

The surface vent configuration is expected to be similar in size and dimensions to the ventilation outlets at the Arizona 1 Mine. Accordingly, the ventilation shaft is assumed to be 3.05 meters (10 feet) in diameter. Each of the vent outlets is assumed to have an exit diameter of 1.68 meters (5.5 feet), and the center of each outlet is assumed to be located 2.37 meters above the ground surface (see Figure 7).

5.7 Exit Velocities and Temperatures

Method 115 stipulates that the exhaust flow rate from each mine vent must be measured at least four times per year. Energy Fuels will comply with this requirement. Method 115, Section 1.2 specifies test methods to be used to measure velocity traverses (40 CFR 60 Appendix A, Method 1) and velocity and volumetric flow rates (40 CFR 60 Appendix A, Method 2). Method 1 will be used to measure air exhaust velocities at the Canyon Mine. The measurements will be taken between the fan and the vent outlet. The volumetric flow rate will be calculated by multiplying the average velocity by the cross sectional area of the duct at the measuring point. The design flow rate for the mine is 200,000 cubic feet per minute (cfm) or 94.38 cubic meters per second (m^3/s). The design flow rate was used in the COMPLY-R dose estimate presented in Attachment E.

Exhaust temperatures at the Company's Arizona mines typically range from 51 to 63 degrees Farenheit, depending on the time of year. Energy Fuels uses the default value of 55 degrees when using the COMPLY-R code, as the model is not especially sensitive to small differences in temperature.

5.8 Other Information Used to Determine Dose to the Maximum Receptor

5.8.1 Use of Windrose Data from the Tusayan Airport Meteorological Station at the Grand Canyon National Park

In determining the most appropriate meteorological data to use in the COMPLY-R model, nine meteorological stations were identified within an approximately 50-mile radius of the Canyon Mine site, all of which were evaluated to determine if they provide meteorological data that is suitable for COMPLY-R modelling at the site. Attachment A presents a memorandum prepared by Arcadis U.S., Inc. (Arcadis 2015) that evaluates these meteorological stations.

Based on Arcadis' recommendation, Energy Fuels used the data collected at the Tusayan Airport Station at the Grand Canyon National Park (the "Grand Canyon Station"), which is located close to the site (approximately 5.6 miles) and meets all of the EPA criteria applicable for COMPLY-R modelling. None of the other eight meteorological stations satisfy all of the EPA criteria, and, as a result, none of the other stations were considered suitable for COMPLY-R modelling at the site.

The location of the Canyon Mine in relation to the Grand Canyon Station is shown on Figure 4.

5.8.2 Determination of Receptors

Since actual wind rose data were used for the attached modeling, the COMPLY-R model requires that the nearest potential receptors be identified in each of the sixteen sectors of the compass relative to the Canyon Mine ventilation emission point. The potential receptors used in the attached COMPLY-R modeling are shown on Figure 5.

These potential receptors were determined based on a careful review of satellite imagery, in conjunction with Energy Fuels' knowledge of the surrounding areas. In identifying potential receptors, the evaluation erred on the side of inclusiveness. That is, unless the Company had knowledge to the contrary, receptors that appeared as possible receptors were included based on a review of the satellite imagery, without verifying in each case the actual status of the possible receptor. In fact, Energy Fuels recently confirmed that Receptor 11 on Figure 5 currently consists of an uninhabited house and deserted airplane hangar on USFS managed land, and is therefore not currently a receptor. However, personnel at the USFS have indicated that the house could still be permitted by the owner for future occupied use (although not likely during the life of the mine). Accordingly, Receptor 11 was conservatively included in the dose analysis presented in Section 7.0, and constitutes the most highly impacted potential receptor. However, when performing COMPLY-R modeling to be included in the annual reports to be submitted to EPA (see Section 11 below), Energy Fuels will verify whether Receptor 11 and other possible receptors are occupied (full or part time) or unoccupied structures, and will take the occupancy into account when determining modeled doses to such potential receptors.

6.0 PROCESS CHARACTERIZATION

The Canyon Mine is designed as an underground uranium mine. The deposit is contained in a breccia pipe, which is a nearly cylindrical column of rock. The pipe is comprised of material that has, over millions of years, broken and collapsed into a chamber that grew upward from deeper rock layers that have extensive natural caves. This fragmented rock (*i.e.* "breccia") within pipes is a mixture of overlying rock formations that collapsed downward over geologic time. The breccia rock in the pipes is now hard and cemented as a result of geologic processes. Breccia pipes provide favorable environments for the accumulation of uranium mineralization.

Due to the nature of the ore deposit, the area of surface operations at the mine is small and encompasses approximately 17 acres as shown on Figure 2. Access to the deposit will be by a conventional, three compartment, vertical shaft located approximately 150 feet to the northeast of the deposit. The shaft will be excavated to a depth of approximately 1,400 feet as shown on Figure 6. Horizontal workings will be driven from the shaft to a point just outside the farthest extent of the ore reserve. From this point, a vertical ventilation shaft will be up-reamed to the surface. The ventilation shaft will be used to exhaust air, thereby creating adequate airflow throughout the mine workings and providing a second exit or escapeway from the mine in the event of an emergency, as is required by federal Mine Safety and Health Administration (MSHA) regulations.

Raise or incline workings within the mine will connect the various levels within or very near the deposit. At various elevations from these levels, sublevel workings will be driven to extract ore from the deposit.

Broken ore will be dropped down raises to drawpoints on the lowest level. The ore will then be hauled to the production shaft, at which point it will be transferred to skips and hoisted to the surface.

No ore processing will be conducted on site. The ore will be shipped to the White Mesa Mill, near Blanding Utah. If the ore cannot be shipped immediately to the mill, it will be placed in nearby stockpiles within the ore stockpile pad area at the site until it can be shipped. Development rock from the mine operations will be placed in the development rock area and in mined-out areas of the underground workings.

The mine ore production for the life of the facility is expected to be 82,800 tons. Production will vary by month depending on the amount of development that is needed to access the ore. On average, the mine is expected to produce about 200 tons of ore per day once the production shaft, ventilation shaft, and working levels are in place.

As discussed previously, the mine will be ventilated by drawing air in through the production shaft and exhausting the air through the ventilation shaft, although these flows could be reversed in certain circumstances. As shown in Figure 7, fans will be located at each of the two vent outlets set up in a Y-configuration where the vent shaft meets the surface, as well as at the top of the production shaft, to ensure that all potential radon emission streams are captured, regardless of whether the fans are set to exhaust, intake or are turned off. The fans in the vent outlets can be operated together or separately. When the fans are not operating, the air doors on the production shaft will typically be closed for safety reasons.

7.0 ESTIMATED DOSE

Included as Attachment E to this application is a COMPLY-R run for the Canyon Mine, which incorporates the mine-specific estimate of future radon-222 emissions of 1,928 Ci/yr, based on the emission factor in the 1985 Guidance (see Section 5.3 above) and the input parameters listed in Attachment C. The COMPLY-R run identified Receptor 11 (i.e., the abandoned residence and hangar) as receiving the highest potential annual dose of 0.6 mrem/yr. As mentioned above, Receptor 11 is not occupied, so, while a potential receptor, it is not an actual receptor. A second COMPLY-R run was completed without Receptor 11, which showed that the highest potential dose to actual receptors at this time was 0.3 mrem/yr to Receptor 6. This indicates that the current model which includes potential Receptor 11 is conservative.

The attached COMPLY-R results, which are based on the conservative assumptions discussed in Section 5.3, show an estimated potential dose to the maximum potential receptor of 0.6 mrem/yr. This potential dose is well below the 10 mrem/yr standard set out in 40 CFR 61.22. By comparison, the average annual background radiation from radon and its decay products to adults living in the United States is 212 mrem/yr (NCRPM 2009). These modeled results therefore represent an insignificant incremental dose to the maximum possible receptor.

It is also interesting to note that the estimated potential dose from the Arizona 1 Mine based on the application of the 1985 Guidance to that mine, as set out in the April 2, 2013 application relating to the Arizona 1 Mine was also 0.6 mrem/yr, which overestimated the actual annual estimated doses from the mine of 0.1, 0.2 and 0.2 mrem/yr for 2012, 2013 and 2014, respectively, as reported in the Annual NESHAPS Reports for that mine as filed under 40 CFR 61.24. Similarly, the estimated potential dose from the Pinenut Mine based on the application of the 1985 Guidance to that mine, as set out in a February 9, 2011 response to EPA relating to the Pinenut Mine, was 1.0 mrem/yr, which overestimated the actual annual estimated doses from that mine of 0.02 and 0.60 mrem/yr for 2013 and 2014, respectively, as reported in the Annual NESAPS Reports for that mine as filed under 40 CFR 61.24. These data suggest that the estimated potential annual doses to the maximum exposed receptor will likely overestimate the potential doses based on actual measured emissions by a factor of 1.67 to 3 times.

Compliance with the standard in 40 CFR 61.22 is mandated by 40 CFR 61.23 to be demonstrated by the use of the COMPLY-R model or another program approved by EPA. COMPLY-R does not contemplate any emission sources other than mine vents. Therefore, the annual effective dose equivalent to the maximum potential receptor from the Canyon Mine vent, as determined by the COMPLY-R modeling, is considered to represent the potential dose from the entire facility. The 1985 Guidance (page 3-5) noted that mine ventilation radon emissions greatly exceed the radon-222 emissions from all other sources, such as waste rock and ore stockpiles on the surface. Such other sources were determined to constitute only between two and three percent of a mine's total radon emissions.

8.0 ABNORMAL CIRCUMSTANCE ANALYSIS

In the COMPLY-R modeling that was performed for the mine under normal circumstances, included as Attachment D, the annual effective dose equivalent to the maximum potential receptor was estimated based on the radon emission factor described in the 1985 Guidance. As discussed in Section 5.3 above, the estimated radon emission rate of 1,928 Ci/yr under normal circumstances is considered to be conservative.

As was demonstrated in the previous construction application for the Pinenut Mine under 40 CFR 61.07, there is a linear relationship between the potential doses to the receptors estimated by COMPLY-R and the annual estimated radon releases that are used as inputs in the modeling. In other words, the modeled potential dose to the maximum receptor will change by the same percentage as the percentage change in the radon emission rate assumed for the modeling. This linearity allows for the performance of a quick sensitivity analysis on the potential doses that could occur under abnormal circumstances.

If a doubling of the ore grade or a doubling of the cumulative tons of ore produced over the life of the Canyon Mine were to occur, the estimated radon-222 emissions would also double from 1,928 Ci/yr to 3,856 Ci/yr. Again, given the linearity of the model, the estimated potential dose to the maximum potential receptor (i.e., the currently unoccupied house and abandoned hangar south of the mine) would double from 0.6 to 1.2 mrem/yr, and for the most highly impacted actual receptor at this time from 0.3 to 0.6 mrem/yr, which in each case would still be well below the 10 mrem/yr standard in 40 CFR 61.22.

9.0 CONTROL EQUIPMENT

It will be necessary to vent radon-222 out of the Canyon Mine in order to minimize doses to workers, in accordance with applicable MSHA requirements. As a result, there is no control equipment on the mine vent outlets, other than the fixed diameter of the vent outlets and control over the fans. These controls, however, do allow for accurate calculation of air flow rates and for monitoring radon-222 concentrations in the exhausted air, which allows for the calculation of the total curies emitted from the mine. The curies emitted are then used as inputs into the COMPLY-R model, to demonstrate compliance with the requirements of 40 CFR 61.22.

In order to minimize the generation of radon-222 within the mine, mine bulkheads will be installed to isolate abandoned and temporarily inactive areas, where appropriate. Due to the nature of the ore body, however, there is usually an easily defined demarcation between ore and barren rock, such that little ore will typically be left in mined-out surfaces. This will result in less need for bulk-heading mined-out areas in this type of mine compared to other types of uranium mines.

10.0 INFORMATION REQUIRED UNDER SECTION 61.07(C)

40 CFR 61.07(c) provides that each application for approval of modification shall include, in addition to the information required in paragraph (b) of that section:

1. The precise nature of the proposed changes;
2. The productive capacity of the source before and after the changes are completed; and
3. Calculations of estimates of emissions before and after the changes are completed, in sufficient detail to permit assessment of the validity of the calculation.

All of this information is provided in the Sections above. The following additional information is provided here.

With respect to the information required under subsection 1, Energy Fuels will re-commence sinking the mine shaft, will drift over to the ore body, and will up-ream the planned vent shaft, in addition to conducting normal underground development work in the process of mining the ore. All of this will be conducted in a manner contemplated by the existing Plan of Operations and other approvals. Energy Fuels has not proposed or made any changes requiring the installation of new structures or facilities of any significance, and has not proposed any changes in productive capacity.

With regard to the information required under subsection 2, the productive capacity of the Mine after the "changes" will be the same as it was before the "changes". However, as there are currently no radon emissions at the mine, and the change will involve bringing the mine into production, the change will ultimately give rise to the full radon emissions estimated in Section 5.3 of this application.

Finally, with regard to the information required under subsection 3, because there have been no radon emissions of any significance to date, the changes in emissions will be those estimated in Section 5.3 of this application.

11.0 ANNUAL REPORTING

Under 40 CFR 61.24, an operating mine that is subject to 40 CFR Part 61 Subpart B is required to file with EPA an annual report prior to March 31 of each year, reporting the emissions and modeled doses to nearby receptors for the previous calendar year, among other things.

The provisions of 40 CFR Part 61 Subpart B are not applicable to active underground uranium mines that will not exceed total ore production of 100,000 tons of ore during the life of the mine. However, in order to allow for the possibility that the total tons mined from the Canyon Mine could exceed 100,000 tons over the life of the mine if additional ore is found, and that the provisions of 40 CFR Part 61 Subpart B could possibly apply to the mine in the future, the Company will perform the monitoring required by 40 CFR Part 61 Subpart B, so that the data will be available to determine compliance with the standards set out therein, should they apply. The Company will also voluntarily submit to EPA annual reports that comply with the requirements of 40 CFR 61.24 on or before March 31 of each year, reporting radon emissions and modeled doses to nearby receptors for the previous calendar year. Based on the current mine development schedule, the first report will be filed by March 31, 2017 and will report the monitoring and modeled doses for 2016.

12.0 CONCLUSIONS

As provided in 40 CFR 61.08(b), if the Administrator determines that a stationary source for which an application under 40 CFR 61.07 was submitted will not cause emissions in violation of a standard if properly operated, the Administrator will approve the construction or modification. As demonstrated above, based on conservative assumptions, the COMPLY-R modeling demonstrates that the annual effective dose equivalent to the nearest potential receptor from the Canyon Mine will be well below the standard. Emissions of radon-222 to the ambient air from the mine will not exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent of 10 mrem/yr, in accordance with the applicable standard set out in 40 CFR 61.22. Therefore, we request that the Administrator approve this application.

13.0 REFERENCES

Denison Mines (USA) Corp (Denison), 2010. *Application for Approval of Construction or Modification for the Pinenut Underground Uranium Mine,* Colorado. November 24, 2010.

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Scott Wilson Roscoe Postle Associates Inc.(SWRPA), 2012. *Technical Report on the Arizona Strip Uranium Project, Arizona, U.S.A.* by T. Pool and D. Ross, Toronto, Ontario. June 27, 2012.

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U.S. Environmental Protection Agency (EPA), 1985. *Draft Background Information Document, Standard for Radon-222 Emissions from Underground Uranium Mines*, Office of Radiation Programs, Washington D.C. February 14, 1985.

U.S. Environmental Protection Agency (EPA), 2010. *Application for Approval or Modification for the Arizona 1 Underground Uranium Mine,* Letter to David Frydenlund (Denison) from Shelly Rosenblum (EPA), Region IX, San Francisco, California. September 22, 2010.

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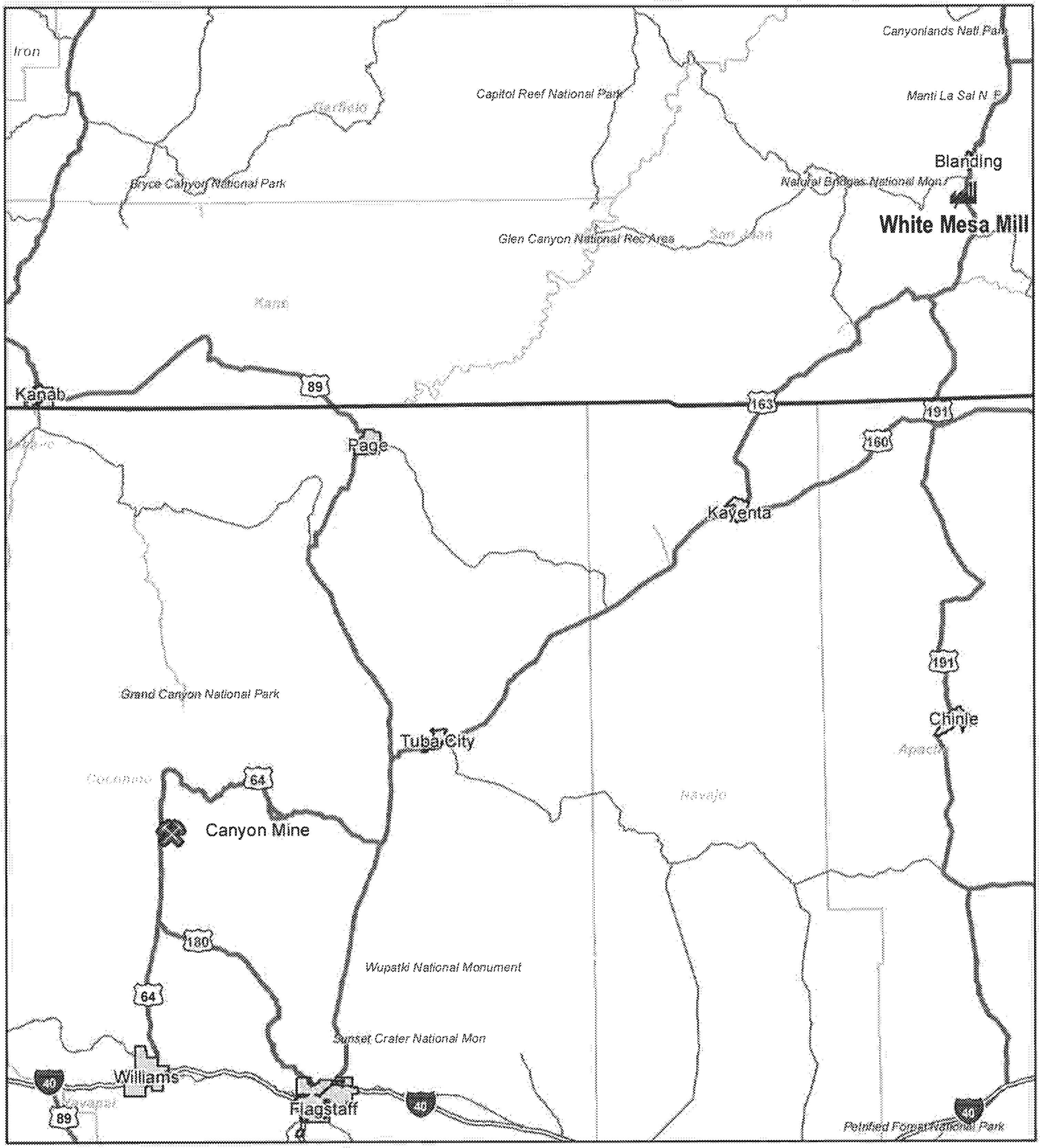
U.S. Forest Service (USFS), 2012b. *Canyon Uranium Mine Review, Review of the Canyon Mine Plan of Operations and Associated Approval Documentation in Anticipation of Resumption of Operations,* US Forest Service, Southwestern Region, Kaibab National Forest, Williams, Arizona, June 25, 2012.

Figures



Path: S:\Source\AZ\Canyon\Maps\NESHAP\Figure 1 Location Map07.02.15.mxd

Miles
0 5 10 20 30 40

N

EF ENERGY FUELS

Canyon Mine
Figure 1
Location Map

Scale	Created	Drawn By
See Scale Bar	July, 2 2015	RJE

Legend

- Ditch
- Access Road

Layer

- Site Boundary
- Building
- Containment Pond
- Development Rock Storage
- Ore Storage

Coordinate System: NAD 1983 StatePlane Arizona Central FIPS 0202 Feet

N

1 IN = 150 FT

200 100 0 200

SCALE IN FEET

ENERGY FUELS

REVISIONS		Project: CANYON MINE	
Date:	By:	County: Coconino	State: Utah
		Location: Section 20, T29N R3E	
		FIGURE 2	
		SITE MAP	
		Author: REllis	Date: 7/1/2015 Drafted By: REllis

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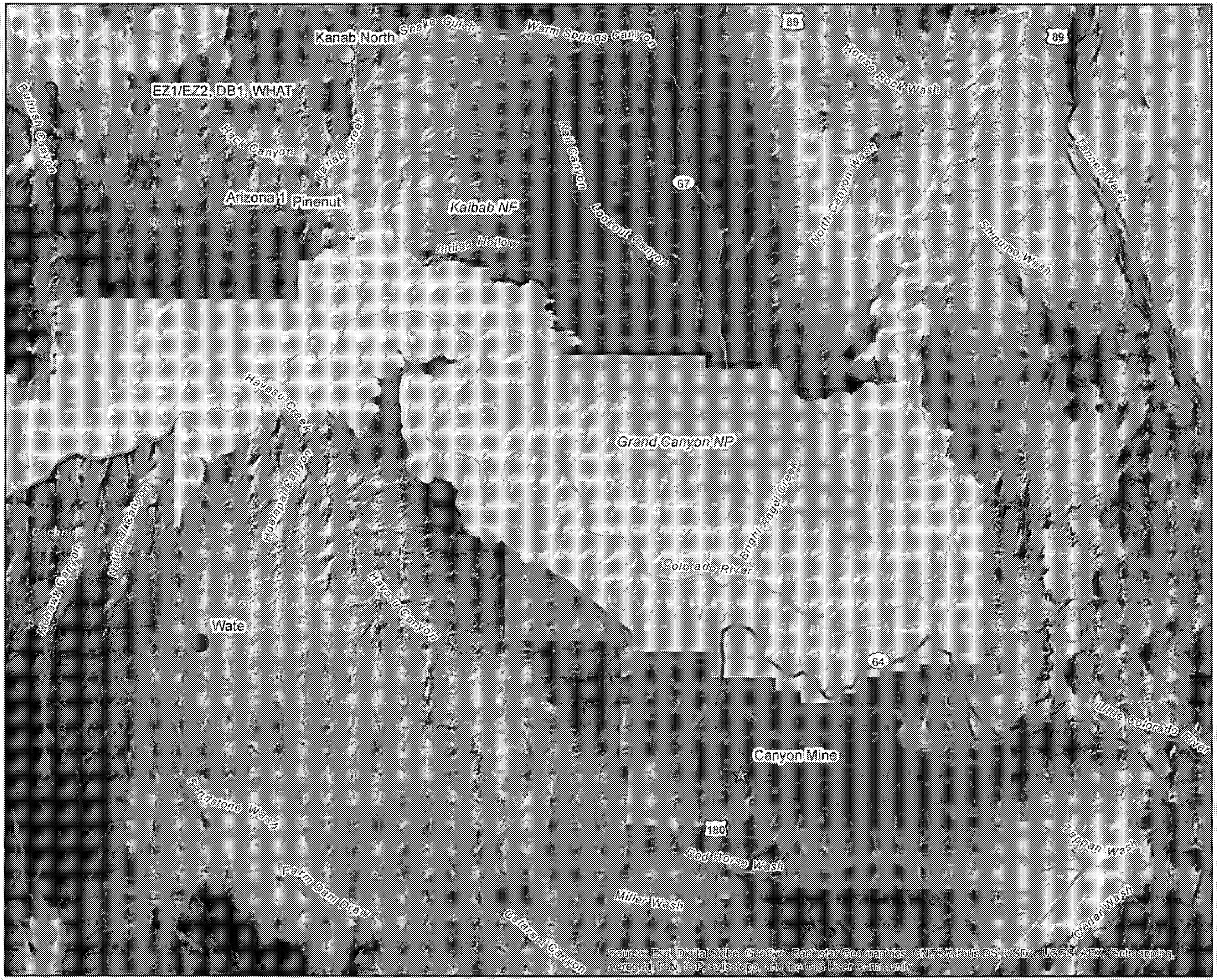

Legend

- Canyon Mine
- Arizona 1
- Pinenut
- Wate
- EZ1/EZ2, DB1, WHAT
- Kanab North
- Stream; Braided Stream
- Stream Intermittent
- Canal; Aqueduct; Intracoastal Waterway
- Canal Intermittent
- Falls
- Dam

Coordinate System: NAD 1983 StatePlane Arizona Central FIPS 0202 Feet

1 IN = 41,667 FT

0 2.5 5 10 15 Miles

N

ENERGY FUELS

REVISIONS		Project: CANYON MINE	
Date	By:	County: Coconino	State: Arizona
		Location: Section 20 T29N R3E	
		FIGURE 3 LOCATION OF OTHER KNOWN POTENTIAL EMISSION SOURCES	
		Author: REllis Date: 5/26/2015	Drafted By: REllis

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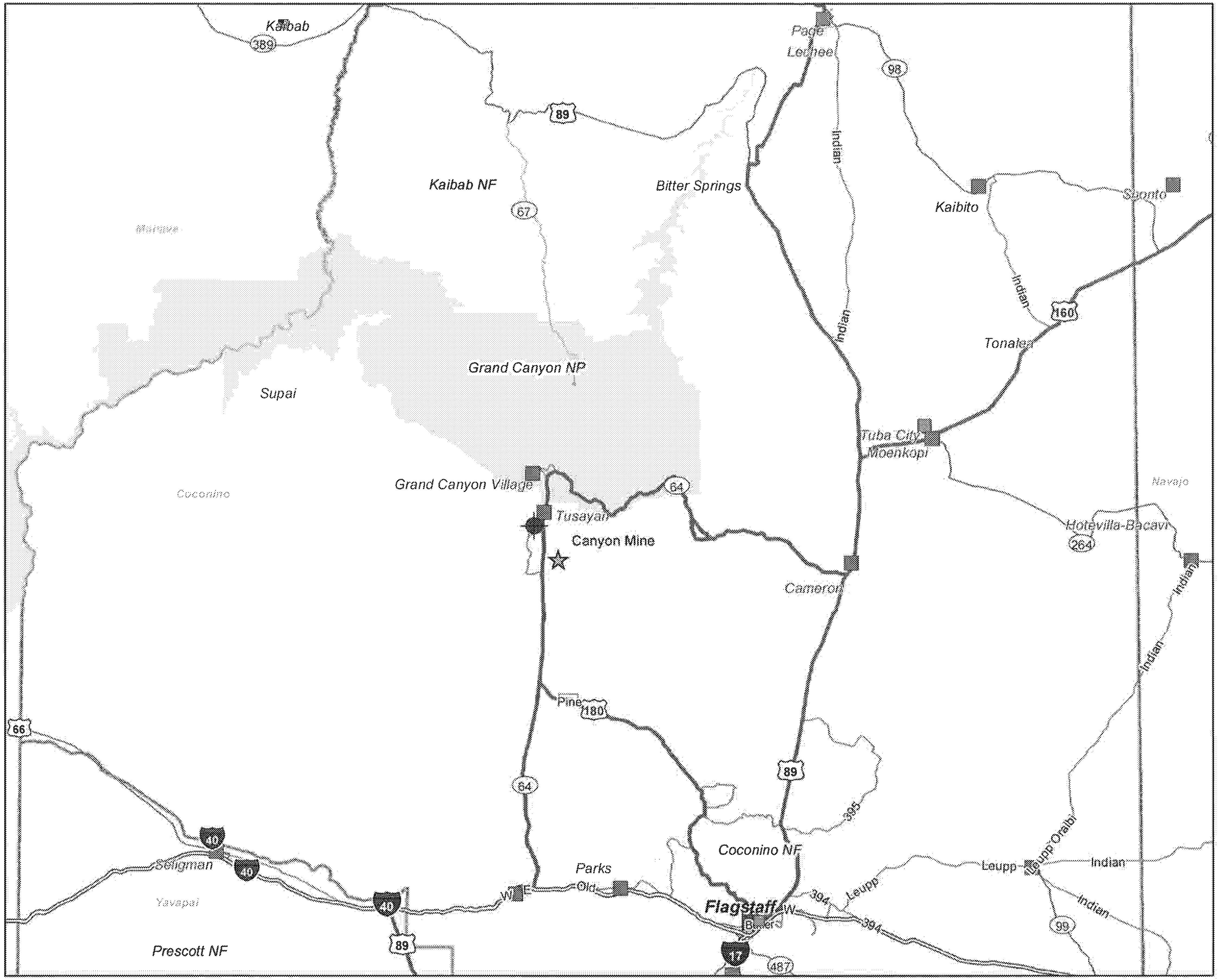

Legend

Tusayan Airport Station (Grand Canyon Station)

Coordinate System: NAD 1983 StatePlane Arizona Central FIPS 0202 Feet

1 IN = 70,610 FT

0 2.5 5 10 15 Miles

N

ENERGY FUELS

REVISIONS		Project: CANYON MINE	
Date:	By:	County: Coconino	State: Arizona
		Location: Section 20 T29N R3E	
		FIGURE 4 METEOROLOGICAL STATION LOCATIONS	
		Author: REllis	Date: 7/1/2015 Drafted By: REllis

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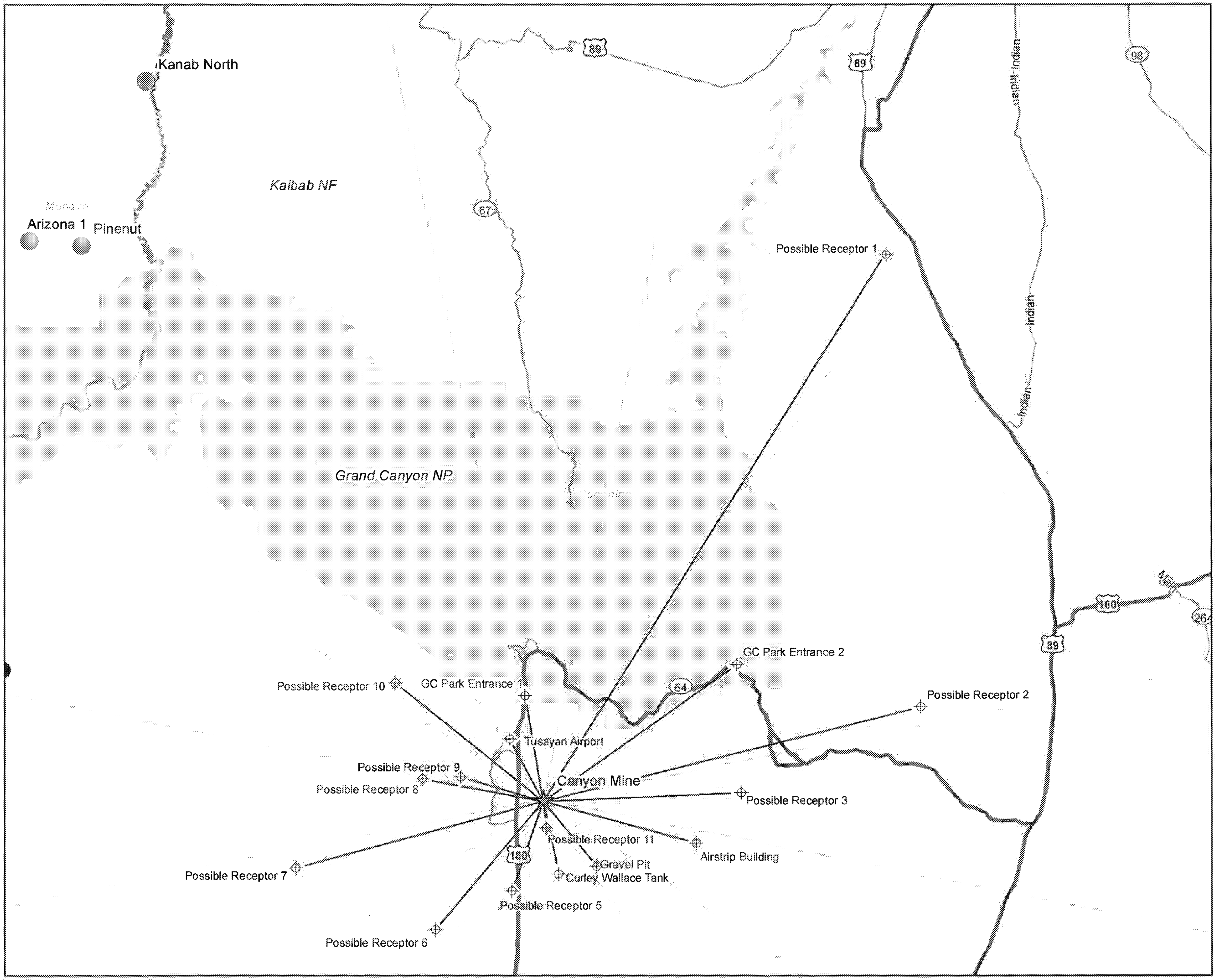

Legend

- Canyon Mine
- Arizona 1
- Pinenut
- EZ1/EZ2, DB1, WHAT
- Wate
- Kanab North
- Receptors
- Compass

Name	Feet	Meters	Miles	Direction
GC Park Entrance 1	43,587	13,285	8.26	N
Possible Receptor 1	262,381	79,973	49.69	NNE
GC Park Entrance 2	96,600	29,444	18.30	NE
Possible Receptor 2	158,677	48,365	30.05	ENE
Possible Receptor 3	80,459	24,524	15.24	E
Airstrip Building	64,960	19,800	12.30	ESE
Gravel Pit	34,329	10,463	6.50	SE
Curley Wallace Tank	30,429	9,275	5.76	SSE
Possible Receptor 11	11,028	3,361	2.09	S
Possible Receptor 5	38,658	11,783	7.32	SSW
Possible Receptor 6	67,784	20,661	12.84	SW
Possible Receptor 7	103,609	31,580	19.62	WSW
Possible Receptor 8	49,564	15,107	9.39	W
Possible Receptor 9	34,721	10,583	6.58	WNW
Possible Receptor 10	76,847	23,423	14.55	NW
Tusayan Airport	28,732	8,758	5.44	NNW

Coordinate System: NAD 1983 StatePlane Arizona Central FIPS 0202 Feet

1 IN = 41,667 FT

0 2.5 5 10 15 Miles

N

EF ENERGY FUELS

REVISIONS

Date: By:

Project: CANYON MINE

County: Coconino State: Arizona

Location: Section 20 T29N R3E

FIGURE 5

RECEPTOR LOCATIONS

Author: REllis Date: 7/2/2015 Drafted By: REllis

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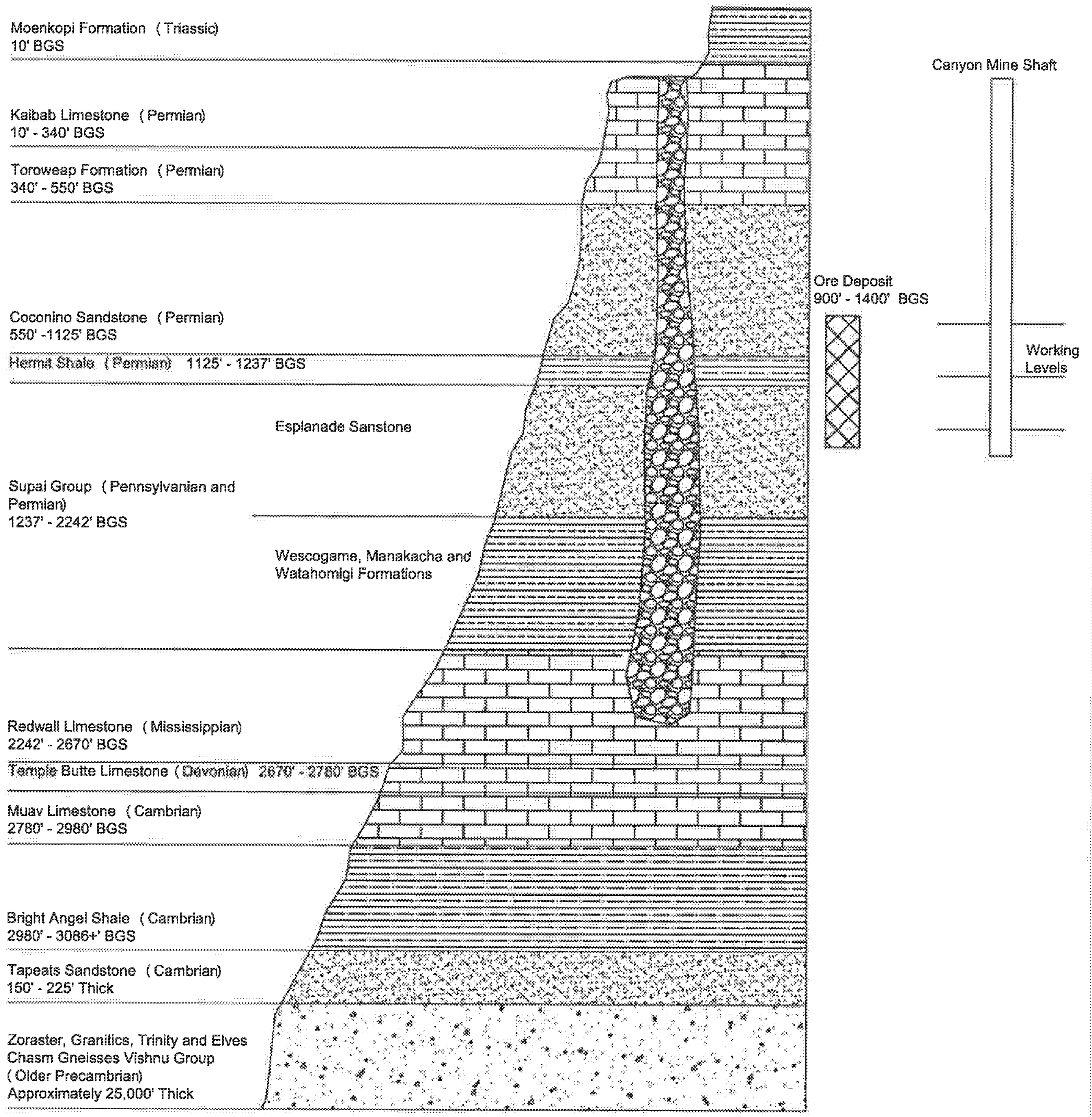

Energy Fuels Resources (USA) Inc.

REVISIONS		Project: CANYON MINE	
Date	By	County: COCONINO	State: ARIZONA
		Location:	

FIGURE 6
CANYON MINE SHAFT AND STRATIGRAPHIC SECTION

Author: RJE | Date: 4/26/13 | Drafted By: RJE

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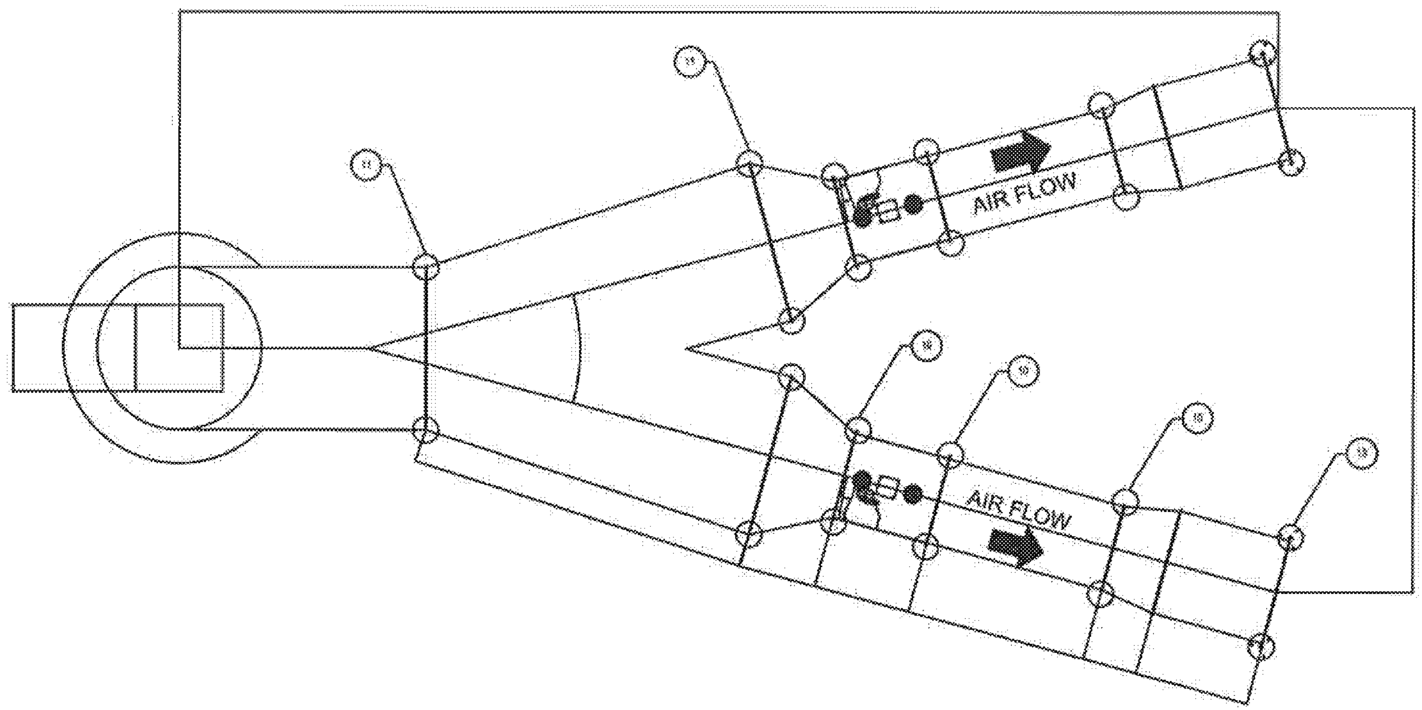
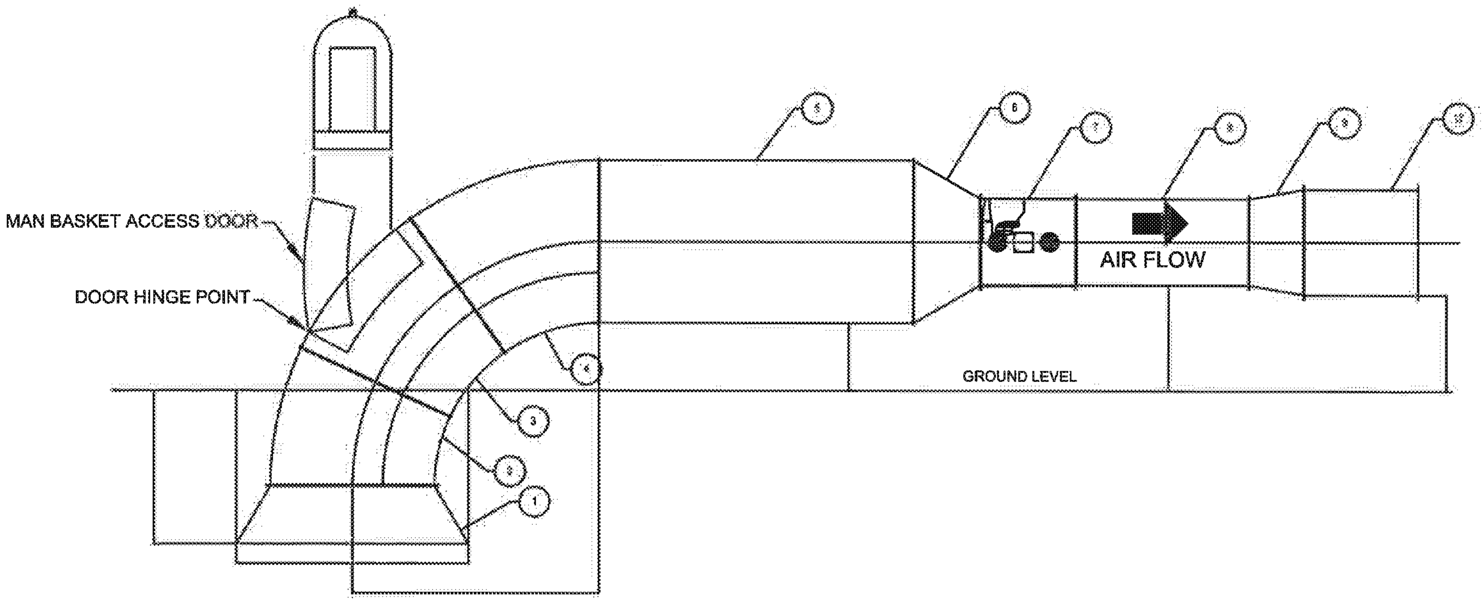


ITEM	PART No.	DESCRIPTION	QUANT	MATERIAL	WT. EA.
1	PART No.	ADAPTER, 144" TO 102"	1	12 GA STL	WT. EA.
2	PART No.	102" DIA 25 DEG ELBOW	1	12 GA STL	WT. EA.
3	PART No.	102" DIA 30 DEG ELBOW W/ ACESS DOOR	1	12 GA STL	WT. EA.
4	PART No.	102" DIA 35 DEG ELBOW	1	12 GA STL	WT. EA.
5	PART No.	Y- 102" DIA	1	12 GA STL	WT. EA.
6	PART No.	ADAPTER, 102" TO 54"	2	12 GA STL	WT. EA.
7	R-5250-B	JETAIR 54" X 30" X 1800 RPM X 250HP	2	MATERIAL	WT. EA.
8	PART No.	SILENCER, 54" DIAMETER	2	MATERIAL	WT. EA.
9	PART No.	OUTLET BELL WITH BOLT ON SCREEN	2	MATERIAL	WT. EA.
10	PART No.	54" SUPPORT LEG STAND	6	MATERIAL	WT. EA.
11	PART No.	102" SUPPORT LEG STAND	3	MATERIAL	WT. EA.
12	PART No.	66" DAMPER	2	MATERIAL	WT. EA.
13	PART No.	66" SUPPORT LEG STAND	2	MATERIAL	WT. EA.



Note:

1. EXPECTED CONFIGURATION OF THE CANYON MINE VENT. BASED ON THE ARIZONA 1 MINE VENT.

W:\USA\Arizona\Canyon\Mapping\NESHAP\Figure 7 Vent Configuration.dwg Fig 7 REllis

Energy Fuels Resources (USA) Inc.

REVISIONS		
Date	By	

Project: Canyon Mine
County: Coconino State: Arizona
Location:

FIGURE 7
EXPECTED VENT CONFIGURATION

Author: RE Date: 4/25/13 Drafted By: RE

Attachment A – Canyon Mine Meteorological Evaluation

ARCADIS

ARCADIS U.S., Inc.
630 Plaza Drive
Highlands Ranch
Colorado 80129
www.arcadis-us.com

Ms. Jaime Massey
Regulatory Compliance Specialist
Energy Fuels Resources (USA) Inc.
225 Union Blvd. Suite 600
Lakewood, Colorado 80228

Subject:
Selection of Meteorological Station for Radon Dispersion Modeling at Proposed Canyon Mine Vent

Date:
July 1, 2015

Contact:
Jo Ann Tischler

Phone:
303-501-9226

Email:
joann.tischler@arcadis-us.com

Our ref:
42213001.0000-00001

Dear Jaime:

Energy Fuels Resources (USA) Inc. (EFRI) has requested that Arcadis US Inc. (Arcadis) evaluate meteorological stations in the region of EFRI's proposed mine vent at the Canyon Mine in Arizona, to select meteorological data suitable for input into COMPLY-R modeling of radon emissions from the proposed vent. This technical memorandum provides the results of Arcadis' evaluation.

Arcadis understands that the proposed mine vent has not yet been constructed. The proposed vent will have location coordinates, provided by EFRI, as follows: State plane NAD 83 Arizona Central Feet N 1,776,383' E 646,769' Latitude Longitude N 35.883454°E -12.095926. The proposed vent, which has been designed to extend 2.4 meters above grade, will be located at an approximate elevation of 1980 meters (6505 feet) above mean sea level (amsl), in a clearing surrounded by a forested area.

Meteorological Stations Evaluated

A review of websites at the Western Regional Climate Center (www.wrcc.dri.edu/coopmap, www.raws.dri.edu/wraws/azf.html) and the Federal Aviation Administration (www.faa.gov/air_traffic/weather) identified nine meteorological stations within an approximately 50-mile radius of the proposed Canyon Mine vent location. All nine stations were located in rural areas of comparable elevation (approximately 2000 meters (6,600 feet) amsl). The stations fall within two geographical clusters: three are located less than 8 miles from the proposed vent site, and the remaining six are located between 22 and 56 miles from the site.

One of the nine stations is a temporary station, referred to herein as the USGS Station, which is located just inside the fence line, at the Canyon Mine property. The

USGS Station was installed by the United States Geological Survey (USGS) as a temporary station in April 2013 and has been operational since that time. However, despite its proximity to the proposed vent site, it does not meet all of the US Environmental Protection Agency (US EPA) criteria and factors for quality and suitability of wind data, and is therefore not considered to be a suitable available on-site meteorological station for purposes of COMPLY-R modeling. Nevertheless, wind data from the USGS Station was compared to wind data from the station that was considered to be the most suitable station for purposes of COMPLY-R modeling at the Canyon Mine site, as a second check on the suitability of that station.

The nine stations considered, and descriptive information used to compare them, are listed in Table 1. The screening criteria applied to each of the stations in Table 1 is described below.

Basis for Screening Criteria

Multiple USEPA guidance documents state that, in circumstances such as at the Canyon Mine, where a suitable meteorological station is not available at the location to be monitored and modeled, the primary criteria for assessing suitability of off-site stations is that data from the selected off-site station be representative of the weather patterns, particularly wind speed and direction, at the site. Criteria for assessing representativeness of data are set out in USEPA's COMPLY-R User's Guide as discussed in Appendix D thereto, and in USEPA's Meteorological Monitoring Guide. This technical memorandum applies the screening criteria set out in those two documents to determine the suitability of the various available meteorological stations for COMPLY-R modeling at the Canyon Mine site.

The relevant screening criteria are summarized below:

USEPA User's Guide for the COMPLY-R Code, Revision 1, 1989

USEPA's COMPLY-R Guide. Appendix D, states that the COMPLY-R user:

"...must find a location, fairly close, that duplicates the conditions at your location as closely as possible. The factors that most affect wind speed and direction are as follows: ..."

1. The elevation relative to the surrounding area
2. Presence of a valley
3. Presence of a large body of water
4. Topography (hilly terrain)

5. Urban versus rural"

Appendix D to USEPA's COMPLY-R Guide also states that the measurements should:

6. come from a meteorological tower located within 50 miles of the site, and
7. cover the same year as the assessment period for the model or from a long-term average (at least 5 years) which does not have to include the assessment period. As the assessment period will be in the future, having five years of historic data is considered an important factor to ensure the representativeness of the data for future modeling.

USEPA Meteorological Monitoring Guide for Regulatory Modeling Applications, 2000

USEPA's Monitoring Guide, in Section 3, provides the following additional "factors to consider" for modeling "simple terrain", defined as settings such as the Canyon Mine vent setting, in which the terrain is below the top of the vent stack height.

8. Section 3.2 states that for this type of setting, the "standard exposure height of wind instruments over level, open terrain is 10 m above the ground." Other meteorological tower heights and configurations are also described for use in modeling vent stacks 200 m or above. These criteria are not applicable to the Canyon vent which, when constructed, is anticipated to be 2.4 m above grade. Therefore, the 10m guideline was incorporated in the screening table.

9. Chapter 3.2 states that for towers within dense, continuous forests where an open exposure cannot be obtained, measurements should be taken at 10 m above the top of the vegetative canopy. The screening table identifies the presence of forestation, or clearing, around each tower considered.

10. Chapter 3.2 recommends that solid structures such as buildings, cooling towers, and stacks, should not be used to support meteorological instruments due to their influence on wind measurements. Data available indicates that each of the stations considered was a stand-alone station not mounted on a structure. Therefore it was not necessary to include this criterion in the screening table.

11. Chapter 3.2 also identifies that for towers which monitor wind speed at more than one elevation, the structure of the tower itself may influence the measurements if the structures are solid towers, not open lattices. To the

extent that information was available regarding instruments placed at more than one elevation, that information was included in the screening table.

12 Table 5-2 "Recommended Response Characteristics for Meteorological Sensors" states that meteorological anemometers should have a response sensitivity for wind speed sufficiently low to detect starting wind speeds of $\leq$0.5 m/s.

The foregoing criteria in the US EPA COMPLY-R User's Guide and the US EPA Meteorological Monitoring Guide have been considered in the evaluation below. All the identified stations were located in rural areas, and none is in or adjacent to a valley that would create wind channeling, or adjacent to a large body of water. Therefore, factors 2, 3, and 5 above, were not differentiators, and it was unnecessary to include them in the headings in Table 1. In addition, each of the stations considered was a stand-alone station not mounted on a structure. Therefore factor 10 was not included in the screening table. Each of the other factors (1, 4, 6, 7, 8, 9, 11 and 12) is specifically addressed in the screening table.

Screening of Meteorological Stations

Comparison of the nine identified meteorological stations to the criteria in Table 1 indicates that only one meets all of the EPA criteria and factors. Eight of the stations considered do not meet the recommended height criteria, that is, are not 10 m above ground level. Many of these stations can also be eliminated based on other criteria as follows:

- One station is in open un-forested terrain that differs from the vent site vegetative conditions. The same station is also located on flatland that differs from the vent site topography.
- Five are in forested areas but are not constructed at 10 m above the top of the vegetative canopy.
- One did not have, or could not be confirmed to have, a recent year of continuous wind speed data for development of wind roses.
- One did not have a long term average (5 years) of data.
- For seven stations, instrument specifications and/or data were not available to confirm whether the stations have sufficient sensitivity to detect wind speeds $\leq$0.5 meters/sec,
- Seven are further away from the Canyon Mine site than the one station that satisfies all of the criteria.

Only one of the stations, the Tusayan Airport Station at the Grand Canyon National Park, referred to herein as the Grand Canyon Station, has been confirmed as meeting all of the applicable criteria. It has instrumentation at 10 m above ground level. The Grand Canyon Station is located on a flat clearing surrounded by hilly, forested area, like the Canyon mine site. The Grand Canyon Station is also close to the Canyon Mine site, being approximately 5.6 miles away, and with the exception of the USGS Station, is the closest of all of the stations. The topography and relative distances of the USGS on-site station and Grand Canyon station are depicted in Figure 1.

While the USGS Station is at the site, it does not meet several of the applicable criteria, most notably,

- it is a 3 meter station, not a 10 meter station,
- its anemometer sensitivity is insufficient to record wind speeds lower than 1 m/s (compared to EPA's recommendation of less than 0.5 m/s), and
- it does not have five years of data.

Further, the USGS station has minimal instrumentation and unknown instrument maintenance and data quality standards. Photographs of the USGS on-site meteorological tower and Grand Canyon meteorological tower, are provided in Figure 3. For these reasons, the USGS Station is not considered to be suitable for COMPLY-R modeling at the Canyon Mine site.

Comparison of Wind Data

Wind speed and direction data from the Grand Canyon Station has been compared to data from the USGS Station to determine whether there are any significant differences in the data. An overlay of wind roses from the two stations developed from data for the period from April 2013 to April 2014 has been provided in Figure 2. As indicated in the figure, the wind direction frequencies and wind speeds are very similar, as is the percentage of calms (approximately 40% $\pm$ 2%) for both stations. The major difference is the somewhat higher wind speed at the Grand Canyon Station compared to the USGS Station and all other stations, most likely due to the fact that the Grand Canyon Station is the only station with the required 10m height. This comparison shows that the Grand Canyon Station provides comparable wind direction frequencies and percentage of calms, and more representative wind speeds than the USGS Station.

Recommendation and Selection

Based on the data presented in Figure 1, and the comparable settings described in Table 1, wind data from the Grand Canyon Station can be considered to be representative of wind conditions at the proposed vent site, and the best choice among all available sites.

Additionally, the Grand Canyon meteorological station is preferable to the on-site USGS station for future COMPLY-R modeling because the Grand Canyon Station:

- Meets all of the criteria and factors identified above,
- While not on site, is located near the proposed vent site (approximately 5.6 miles away), is in a clearing surrounded by forest and otherwise has similar terrain as the Canyon Mine site,
- Is the only station in the vicinity of the proposed vent site whose instrumentation is positioned at the recommended 10 meter height (the two other 10 meter stations are located over 40 miles way,
- Is the only station in the vicinity of the proposed vent site whose anemometer has been confirmed to have a wind speed response $\leq$ 0.5 meters/second,
- Has more dependable meteorological instrumentation and easier access to data than the USGS station, and
- Has five continuous years of available data.

It is recommended that data from the Grand Canyon Station be used for the COMPLY-R simulations.

Wind Rose data for the recommended Grand Canyon Station for the five year period from 2009 to 2013, is provided in COMPLY-R format in Table 2 (data for 2014 is not yet available for that site).

If you have any questions or comments, please feel free to contact me at (303) 471-3434 or (303) 501-9226.

Sincerely,

ARCADIS US, Inc.

JoAnn Tischler

Jo Ann Tischler
Senior Program Manager

Copies:

David Frydenlund, EFRI
Thomas Carr, ARCADIS US, Inc.

REFERENCES

US Federal Aviation Administration, accessed at www.faa.gov/air_traffic/weather

US Environmental Protection Agency, 1989. *User' Guide for the COMPLY-R Code (Revision 1) EPA 520-89-029*. October 1989

US EPA, 2000. *Meteorological Monitoring Guide for Regulatory Modeling Applications EPA-454/R-99-005*. February 2000.

US Federal Aviation Administration, accessed at www.faa.gov/air_traffic/weather

Western Regional Climate Center, accessed at www.wrcc.dri.edu/coopmap,

Western Regional Climate Center, accessed at www.raws.dri.edu/wraws/azf.html.

TABLES

FIGURES

TABLE 1:

EPA CRITERIA FOR REPRESENTATIVESNESS OF METEOROLOGICAL STATION DATA

Met. Station #	Metorological Station Name	Coordinates	Elevation (meters amsl)	*Criterion 1:* Elevation relative to surroundings (hill, plateau)	*Criterion 4:* Topography (hilly or flat)	*Criterion 6:* Distance from proposed vent - should be ≤ 50 miles	*Criterion 7:* Wind data available for 5 year period (1)	*Criterion 8:* Tower Height - should be ≥ 10 meters above grade level (2)	*Criterion 9:* If not in a clearing, are instruments 10 meters above vegetative canopy	*Criterion 11:* If multiple level measurements, is tower open lattice	*Criterion 12:* Sensitivity of Response to Windspeed ≤ 0.5m/sec
0	Proposed Vent Location	35.882, -112.096	1981	clearing surrounded by forest	hilly	-	-	-			
1	USGS Canyon Mine Station	35.883, -112.096	1985.5	clearing surrounded by forest	hilly	0 (on site)	No. Data only available since April 2013.	0.8m, 1.5m, 3.0m	NA	Yes	No
2	Tusayan Airport at Grand Canyon National Park ("Grand Canyon Station")	35.956, -112.140	2012	clearing surrounded by forest	hilly	5.6	Yes	10m	NA	NA	Yes
3	Tusayan Remote Automatic Weather Station (RAWS)	35.990, -112.120	2042	forest	hilly	7.5	No. 1 year (2013) windrose data available, hourly data may be available	3m	No	NA	Specifications and/or data not available to confirm
4	Bright Angel RAWS	36.201, -112.061	2532	forest	hilly	22.5	No. 1 year (2013) windrose data available, hourly data may be available	3m	NA	NA	Specifications and/or data not available to confirm
5	Lindbergh Hill RAWS	36.285, -112.079	2694	forest	hilly	27.75	No. 1 year (2013) windrose data available, hourly data may be available	3m	No	NA	Specifications and/or data not available to confirm
6	Dry Park RAWS	36.449, -112.239	2653	forest	hilly	40	No. 1 year (2013) windrose data available, hourly data may be available	3m	No	NA	Specifications and/or data not available to confirm
7	Williams Airport	35.302, -112.193	2034	forest	flat	40.5	Data not available. Cannot be confirmed.	10m	No	NA	Specifications and/or data not available to confirm
8	Greenbase RAWS	35.274, -112.060	2115	open area, no forest	flat	42	No. 1 year (2013) windrose data available, hourly data may be available	3m	NA	NA	Specifications and/or data not available to confirm
9	Flagstaff Pulliam Field	35.142, -111.672	2136	clearing surrounded by forest	hilly	56.5	Yes	10m	NA	NA	Specifications and/or data not available to confirm

Basis for the Criteria: Criteria 1, 2, 3, 4, 5, 6, 7: from USEPA User's Guide for the Comply R Code (Revision 1) EPA 520/I-89-029 October 1989

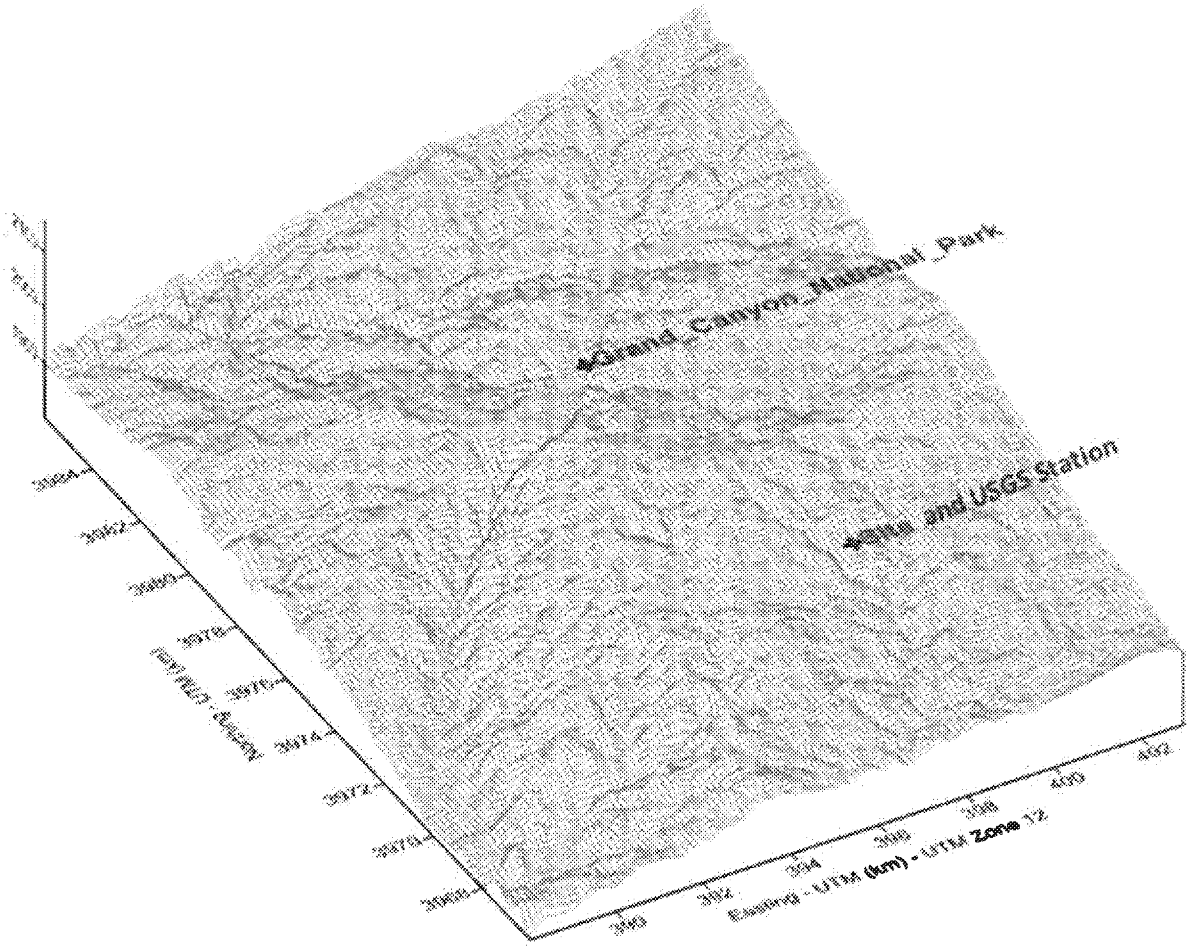
Criteria 8, 9, 10, 11, 12: from USEPA Meteorological Monitoring Guide for Regulatory Modeling Applications EPA-454/R-99-005 February 2000

Table 2:
Grand Canyon Meteorological Station
Wind Data from 2009-2013 in COMPLY-R Format

DIR-FROM	FREQUENCY	SPEED
'N '	1.05E-02	2.92E+00
'NNE'	1.12E-02	3.04E+00
'NE '	6.57E-02	3.17E+00
'ENE'	6.62E-02	3.34E+00
'E '	2.83E-02	3.06E+00
'ESE'	7.87E-03	2.86E+00
'SE '	6.90E-03	3.02E+00
'SSE'	8.87E-03	3.22E+00
'S '	3.79E-02	4.06E+00
'SSW'	9.61E-02	5.60E+00
'SW '	1.28E-01	5.67E+00
'WSW'	6.80E-02	4.69E+00
'W '	3.74E-02	4.04E+00
'WNW'	1.50E-02	3.61E+00
'NW '	1.15E-02	3.45E+00
'NNW'	8.21E-03	3.17E+00

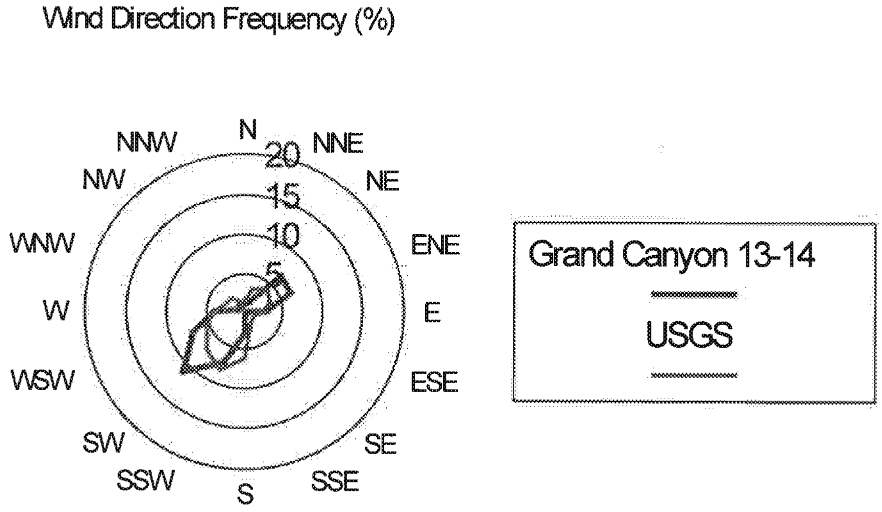
Figure 1:

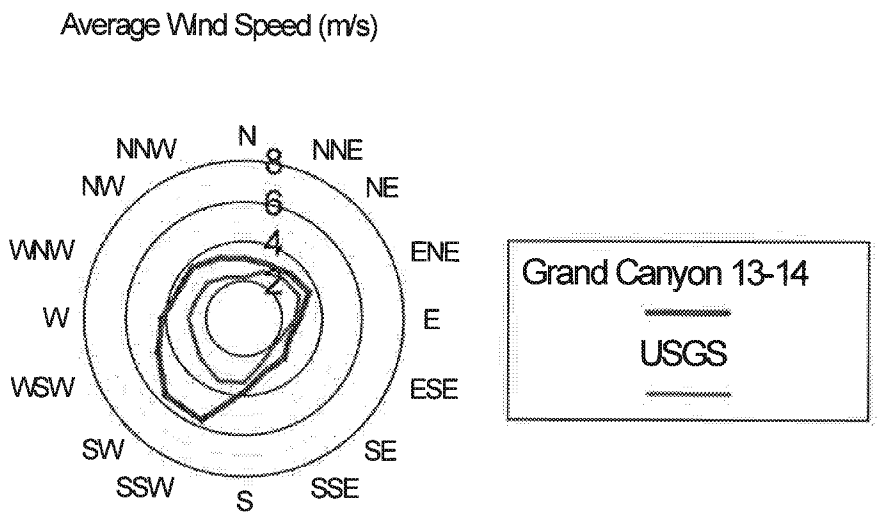
Topography Surrounding Meteorological Stations Nearest to Proposed Canyon Vent Site



Ms. Jaime Massey
July 2, 2015

Figure 2:
Wind Rose Overlays for Grand Canyon and USGS On-Site Stations





Note: Percentage of Calms = 37.82 %
USGS Calms = 42.09 %

Figure 3a:
Photograph of Grand Canyon National Park Meteorological Tower

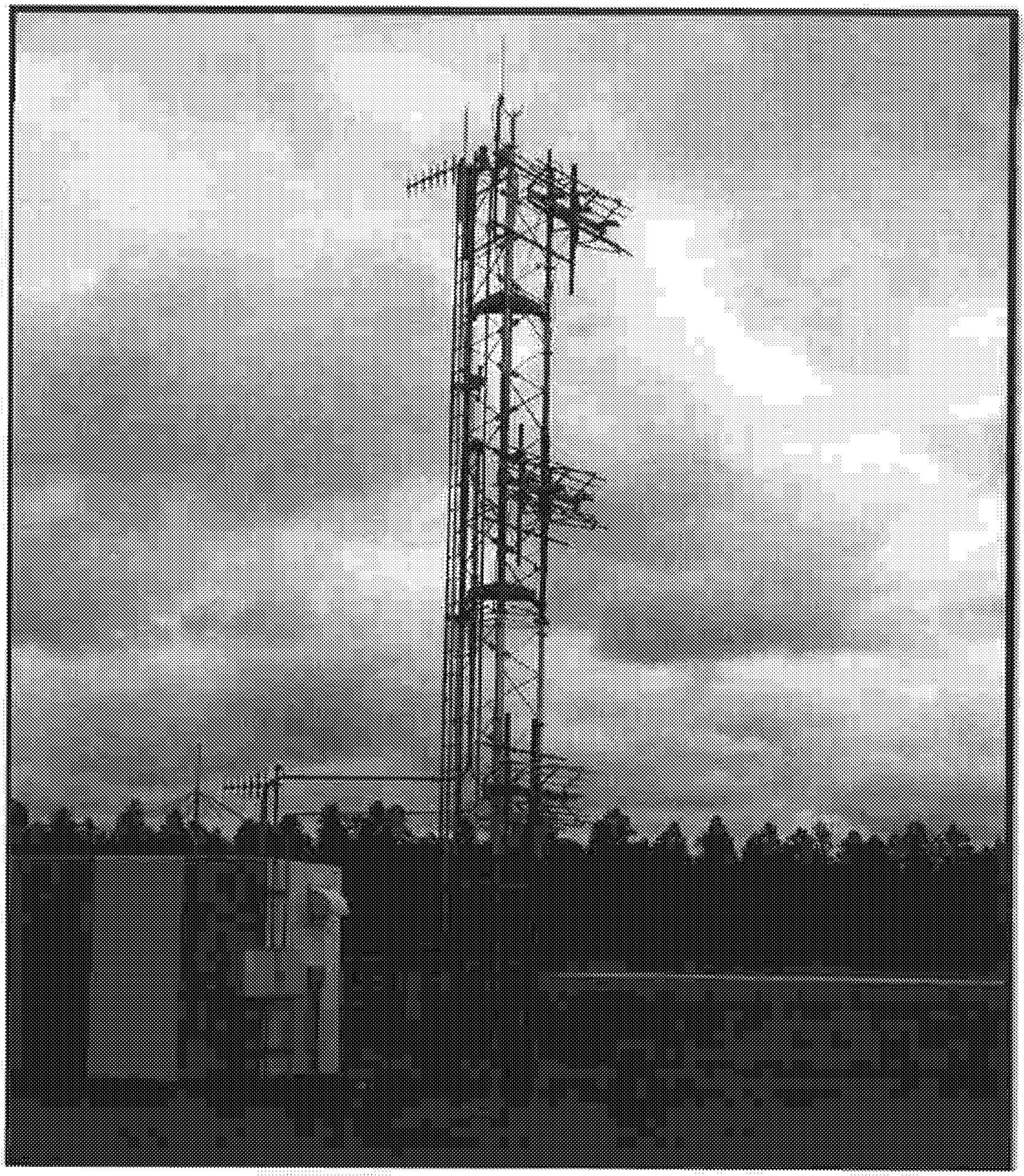
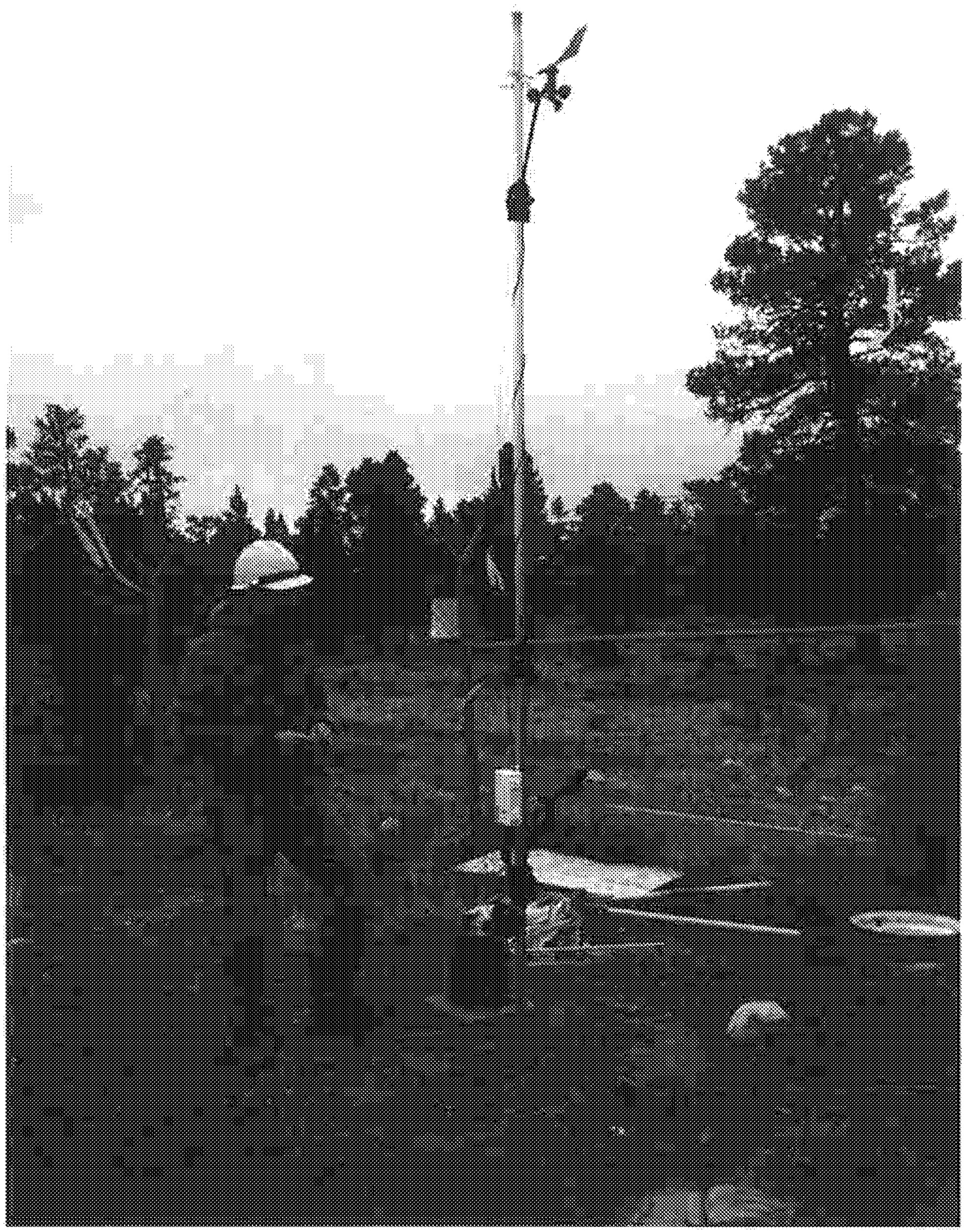
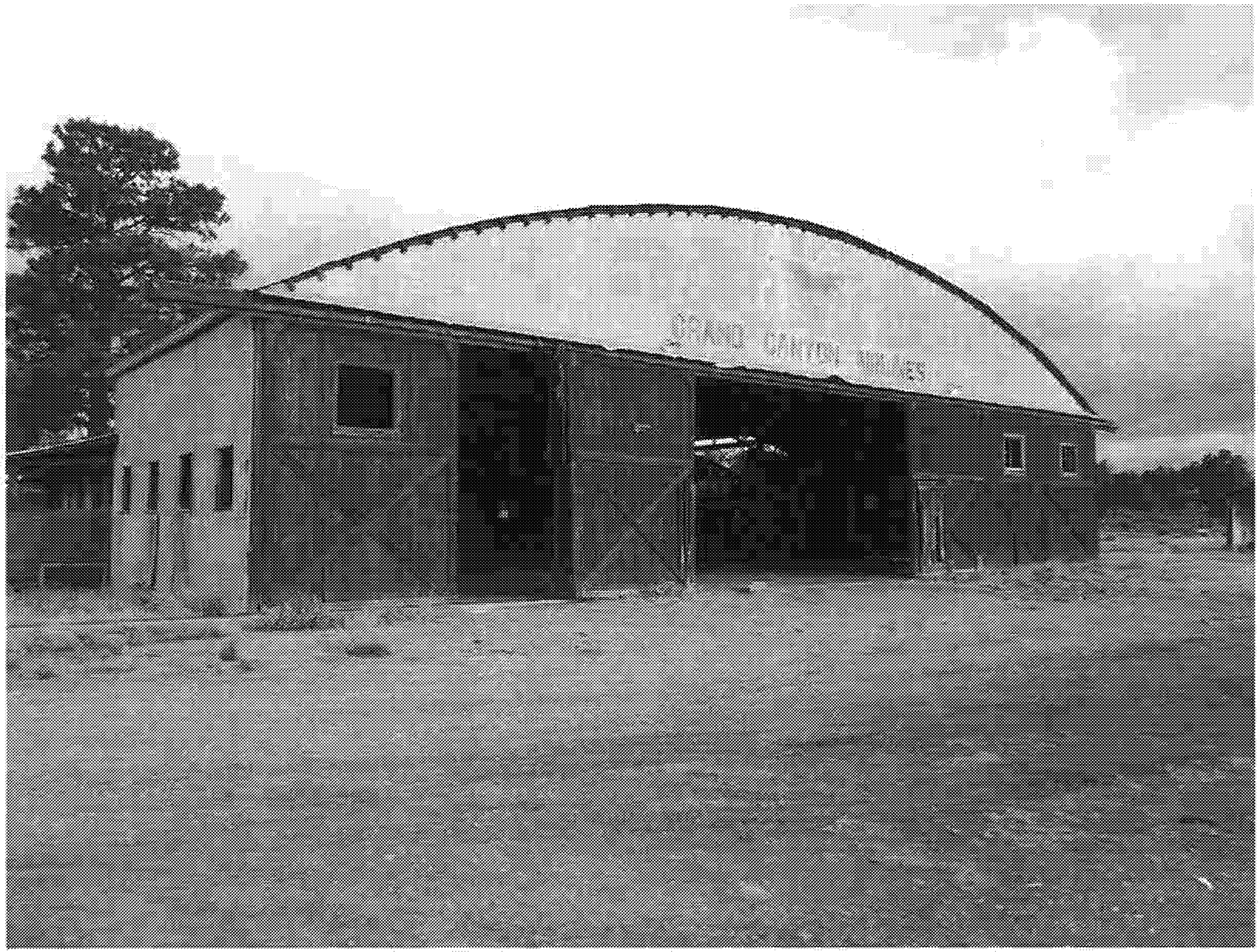


Figure 3b:
Photograph of USGS On-Site Meteorological Tower



Attachment B – Photographs of the Closest Potential Receptor



Inactive Airplane Hanger

Uninhabited House

Attachment C - COMPLY-R Inputs for the Canyon Mine

Comply-R Inputs for the Canyon Mine based on EPA 1985 Guidance

TONS OF ORE IN DEPOSIT [1]	83,000
AVERAGE GRADE OF Deposit [1]	0.98%
EPA 1985 EMISSION FACTOR (Ci/ton-yr)	4.4E-03
ORE GRADE USED IN 1985 EPA GUIDANCE (%U3O8)	0.1856%
ESTIMATED ANNUAL CURIES RELEASED BASED ON CUMULATIVE ORE PRODUCTION FOR LIFE OF MINE PER 1985 EPA GUIDANCE (Ci/Yr)	365.2
ESTIMATED ANNUAL CURIES RELEASED ADJUSTED FOR ORE GRADE (Ci/Yr)	1,928.3

ESTIMATED VENTILATION RATE (cfm)	200,000
ESTIMATED VENTILATION RATE (m^3/s)	94.38
VENT DIAMETER, NORTH AND SOUTH VENTS (METERS)	1.68
HEIGHT ABOVE GROUND AT CENTER OF THE HORIZONTAL VENT, NORTH AND SOUTH VENTS (METERS)	2.37

Notes:
1. NI 43-101 Report June 27, 2012

Attachment D – Results of Track-Etch Monitoring During 2013 Shaft Sinking at the Canyon Mine

Canyon 2013			
Canister Period	**Location**	**Result (pCi/L)**	**Notes**
1/7/2013-2/28/2013	shaft	0.6	ND
3/5/2013-4/8/2013	vent	1.7	
4/8/2013-5/7/2013	shaft	1.0	ND
	vent	1.0	ND
5/7/2013-6/5/2013	shaft	1.0	ND
	vent	1.0	ND
6/5/2013-7/8/2013	shaft	2.6	
	vent	2.0	
7/8/2013-8/7/2013	shaft	3.7	
	vent	2.7	
8/7/2013-9/12/2013	shaft	3.3	
	vent	3.2	
9/12/2013-10/9/2013	shaft	2.4	
	vent	1.6	
10/9/2013-11/11/2013	shaft	0.3	
	vent	1.3	
2013 average		**1.84**	
2013 range		**0.3-3.7**	

Attachment E – COMPLY-R Model Runs

1) COMPLY-R Model Including Receptor 11 (abandoned house and hangar)

2) COMPLY-R Model Excluding Receptor 11 (abandoned house and hangar)

COMPLY-R Model Including Receptor 11 (abandoned house and hangar)

40 CFR Part 61
National Emission Standards
for Hazardous Air Pollutants

REPORT ON COMPLIANCE WITH

THE CLEAN AIR ACT LIMITS FOR RADIONUCLIDE EMISSIONS

FROM THE COMPLY-R CODE, VERSION 1.2

Prepared by:

Energy Fuels Resources (USA) Inc.
Canyon Mine
225 Union Blvd., Suite 600, Lakewood, CO 80228

Jaime Massey
303-389-4167

Prepared for:

U.S. Environmental Protection Agency
Office of Radiation Programs
Washington, D.C. 20460

06/23/15 03:00

Stack	Release Rate (curies/YEAR)
1	1.928E+03

Release Height 2.37 meters.

Vertical momentum NOT present for vent 1

Vent diameter 1.68 meters.

Volumetric flow rate is 94.380 cu m/sec.

STACK DISTANCES, FILE: canyon receptors

DIR	Distance (meters)
N	13300.0
NNE	100000.0
NE	29400.0
ENE	48400.0
E	24500.0
ESE	19800.0
SE	28000.0
SSE	9270.0
S	3360.0
SSW	11800.0
SW	20700.0
WSW	31600.0
W	15100.0
WNW	10600.0
NW	23400.0
NNW	8760.0

06/23/15 03:00

WINDROSE DATA, FILE: canyon windrose

Source of wind rose data: Grand Canyon Airport
Dates of coverage: 2009-2013
Wind rose location: Grand Canyon Airport
Distance to facility: 5.6 miles

Percent calm: 0.38

Wind FROM	Frequency	Speed (meters/s)
N	0.011	2.92
NNE	0.011	3.04
NE	0.066	3.17
ENE	0.066	3.34
E	0.028	3.06
ESE	0.011	2.86
SE	0.011	3.02
SSE	0.011	3.22
S	0.038	4.06
SSW	0.096	5.60
SW	0.128	5.67
WSW	0.068	4.69
W	0.037	4.04
WNW	0.015	3.61
NW	0.012	3.45
NNW	0.011	3.17

NOTES:

Default air temperature used (55.0 degrees F).

Default vent temperature used (55.0 degrees F).

The receptor exposed to the highest concentration is located 3360. meters to the S.

Input parameters outside the "normal" range:

Windrose wind frequency is unusually LOW.
Distance from vent to receptor is unusually FAR.

06/23/15 03:00

RESULTS:

Effective dose equivalent: 0.6 (mrem/year).

Complies with emission standards.

*** This facility is in COMPLIANCE ***

********** END OF COMPLIANCE REPORT **********

COMPLY-R Model Excluding Receptor 11 (abandoned house and hangar)

40 CFR Part 61
National Emission Standards
for Hazardous Air Pollutants

REPORT ON COMPLIANCE WITH

THE CLEAN AIR ACT LIMITS FOR RADIONUCLIDE EMISSIONS

FROM THE COMPLY-R CODE, VERSION 1.2

Prepared by:

Energy Fuels Resources (USA) Inc.
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225 Union Blvd., Suite 600, Lakewood, CO 80228

Jaime Massey
303-389-4167

Prepared for:

U.S. Environmental Protection Agency
Office of Radiation Programs
Washington, D.C. 20460

06/23/15 03:18

Stack	Release Rate (curies/YEAR)
1	1.928E+03

Canyon Final without receptor 11

Release Height 2.37 meters.

Vertical momentum NOT present for vent 1

Vent diameter 1.68 meters.

Volumetric flow rate is 94.380 cu m/sec.

STACK DISTANCES, MODIFIED FILE: canyon receptors

DIR	Distance (meters)
N	13300.0
NNE	100000.0
NE	29400.0
ENE	48400.0
E	24500.0
ESE	19800.0
SE	28000.0
SSE	9270.0
S	10000.0
SSW	11800.0
SW	20700.0
WSW	31600.0
W	15100.0
WNW	10600.0
NW	23400.0
NNW	8760.0

06/23/15 03:18

WINDROSE DATA, FILE: canyon windrose

Source of wind rose data: Grand Canyon Airport
Dates of coverage: 2009-2013
Wind rose location: Grand Canyon Airport
Distance to facility: 5.6 miles

Percent calm: 0.38

Wind FROM	Frequency	Speed (meters/s)
N	0.011	2.92
NNE	0.011	3.04
NE	0.066	3.17
ENE	0.066	3.34
E	0.028	3.06
ESE	0.011	2.86
SE	0.011	3.02
SSE	0.011	3.22
S	0.038	4.06
SSW	0.096	5.60
SW	0.128	5.67
WSW	0.068	4.69
W	0.037	4.04
WNW	0.015	3.61
NW	0.012	3.45
NNW	0.011	3.17

Canyon Final without receptor 11

NOTES:

Default air temperature used (55.0 degrees F).

Default vent temperature used (55.0 degrees F).

The receptor exposed to the highest concentration is located
20700. meters to the SW.

Input parameters outside the "normal" range:

Windrose wind frequency is unusually LOW.
Distance from vent to receptor is unusually FAR.

06/23/15 03:18

RESULTS:

Effective dose equivalent: 0.3 (mrem/year).

Complies with emission standards.

*** This facility is in COMPLIANCE ***

********** END OF COMPLIANCE REPORT **********